OFFICIAL PUBLICATION OF THE PROCEEDINGS AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS

OCTOBER 3, 1949
VOLUME 38, NO. 20

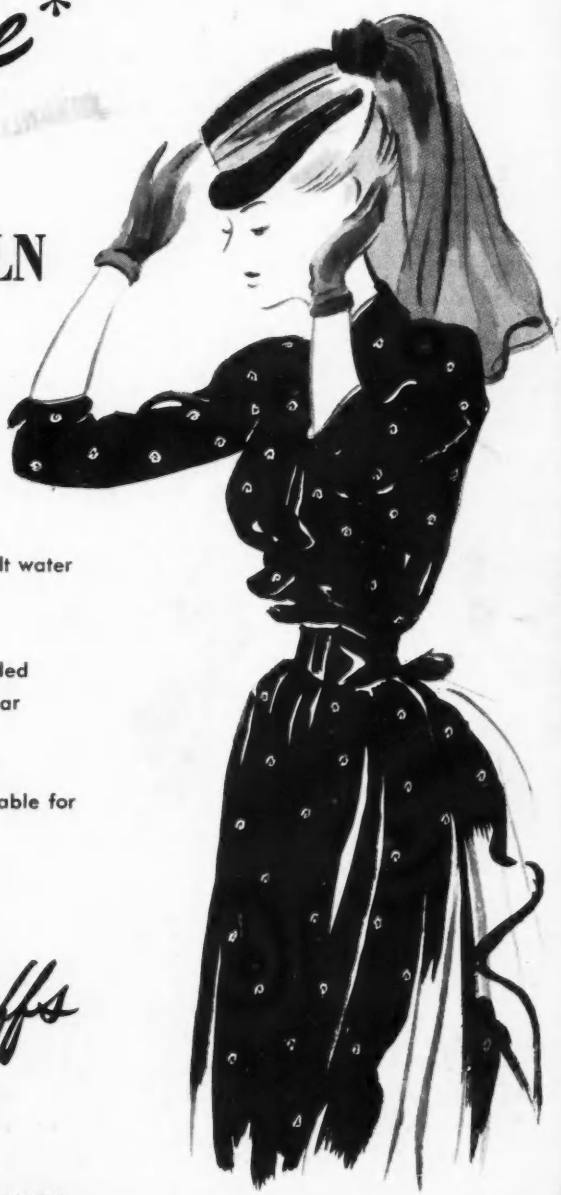
AMERICAN DYESTUFF REPORTER

DEVOTED TO TEXTILE CHEMISTRY · BLEACHING · DYEING · PRINTING · FINISHING

*Pontamine**

Diazo Bordeaux RLN

for bright, bordeaux shades on viscose rayon and cotton



This developed color is particularly suitable for white discharge work. Possesses very good resistance to perspiration, dry cleaning, salt water and dry crocking. Good fastness to washing and cold water.

"PONTAMINE" Diazo Bordeaux RLN is recommended as a base for maroon, burgundy, wine and similar ground shades for discharge patterns on dress goods and other materials where good fastness to wet processing is important. Also suitable for acetate-white effects. Good solubility, penetrates well, dyes levelly. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

*REG. U. S. PAT. OFF.

Du Pont Dyestuffs

DUPONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

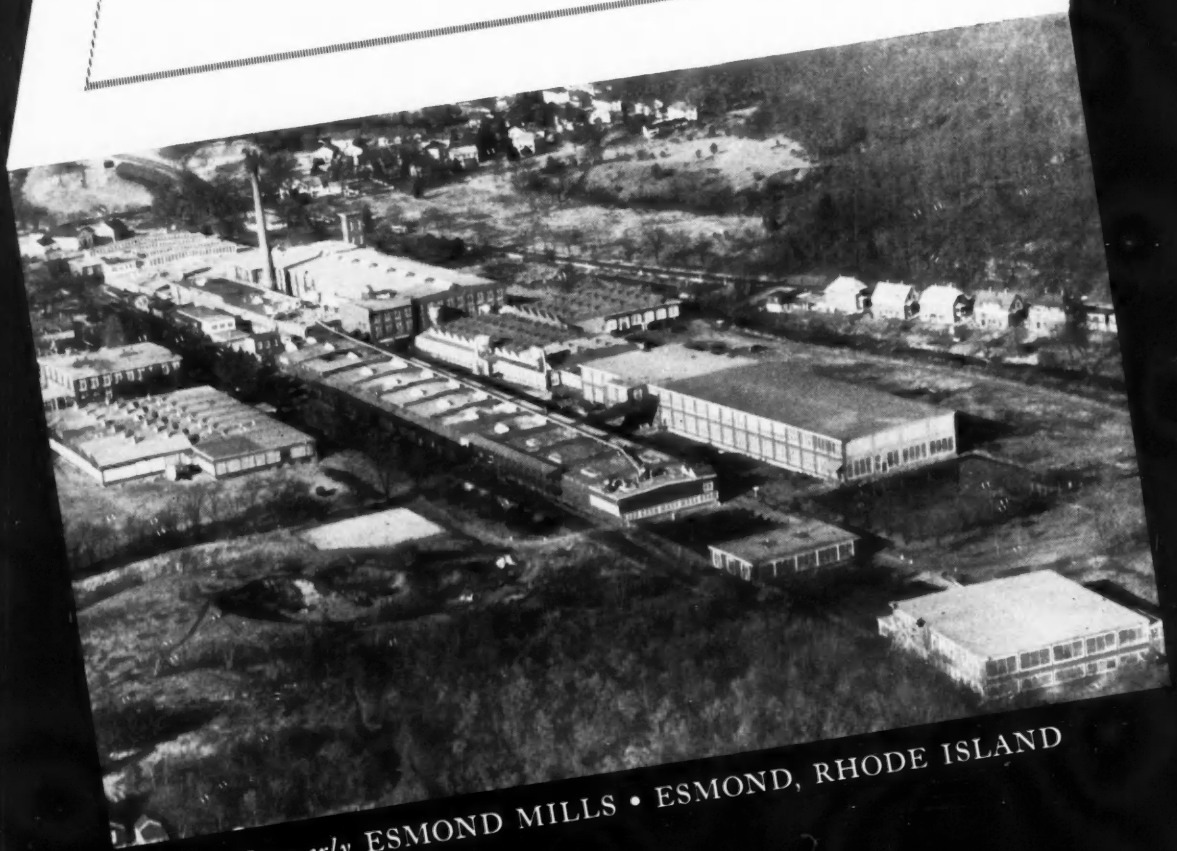
The home of

ESMOND CHEMICAL CO., Inc.

ESMOND, RHODE ISLAND

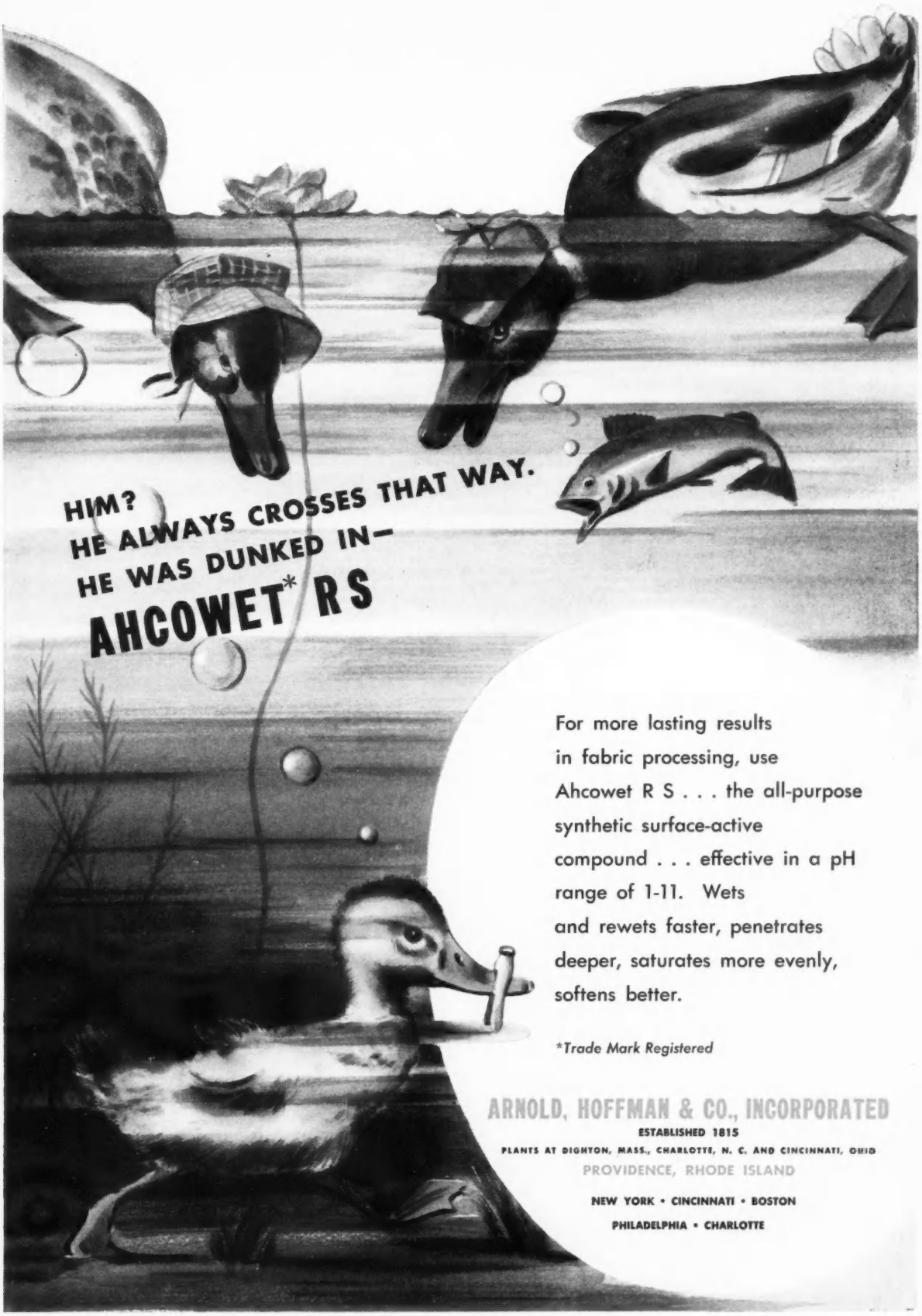
Where chemical research and modern equipment will produce a complete line of

TEXTILE CHEMICALS and SPECIALTIES for the TEXTILE • LEATHER and PAPER TRADE



Formerly ESMOND MILLS • ESMOND, RHODE ISLAND

American Dyestuff Reporter, Vol. 38, No. 20, October 3, 1949. Published every other Monday. Copyright 1949, by Howes Publishing Co., Inc., One Madison Ave., New York 10, N. Y. Domestic subscription, $5.00; Canadian, $6.00. Foreign, $10.00. Entered as second-class matter, Nov. 6, 1919, at the New York, N. Y., Post Office, under the act of March 3, 1879.



For more lasting results in fabric processing, use Ahcowet R S . . . the all-purpose synthetic surface-active compound . . . effective in a pH range of 1-11. Wets and rewets faster, penetrates deeper, saturates more evenly, softens better.

*Trade Mark Registered

ARNOLD, HOFFMAN & CO., INCORPORATED

ESTABLISHED 1815

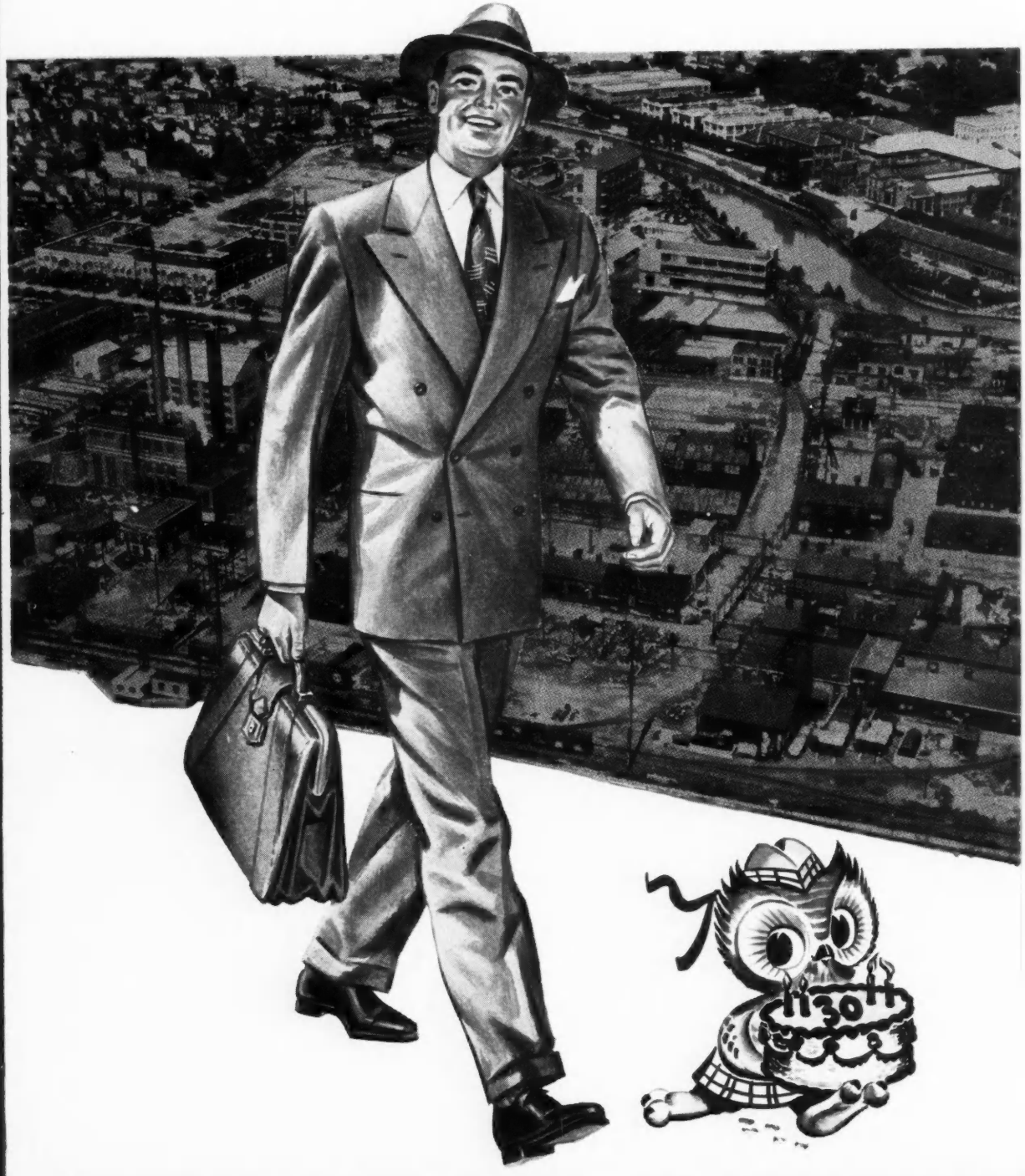
PLANTS AT DIGHTON, MASS., CHARLOTTE, N. C. AND CINCINNATI, OHIO

PROVIDENCE, RHODE ISLAND

NEW YORK • CINCINNATI • BOSTON

PHILADELPHIA • CHARLOTTE

Our 30th Birthday means



s many Happy Returns to YOU...

..."Happy returns" in the form of faster production and bigger profits. We send them to you in care of our fully trained technical salesman, as a birthday-gift-in-reverse. He brings to you literally hundreds of years of problem-solving experience—the aggregate experience of scores of Rohm & Haas chemists and research men who have concentrated on textile chemicals since 1919.

It was in this year that Rohm & Haas produced Lykopon, the first sodium hydrosulfite ever made in America.

Year by year, since then, Rohm & Haas has broadened the scope of its service to the textile industry. Research and testing laboratories have been established. Production capacity has been expanded. The knowledge we have acquired and the facilities we have developed are available to you through our sales representatives.

Meanwhile, we'll be glad to send you current data and literature—and place you on our list to receive reports of our continuous textile research. Write us today.

Rohm & Haas Chemicals for the Textile Industry

LYKOPON — Concentrated sodium hydrosulfite powder, used widely in reducing vat dyes and for stripping fabrics in alkaline and neutral solutions.

FORMOPON —Sodium sulfoxylate formaldehyde, the reducing agent in discharge printing and vat printing.

RHONITES —Water-soluble urea formaldehyde condensates, which give textiles crush resistance, stabilization against shrinkage and stretch, additional weight and modification of handle—all on a durable, wash-fast basis.

RHOPLEXES —Aqueous, solvent-free dispersions of acrylic resins, used to give any type of hand desired — wash-fast, abrasion-resistant, full and crisp, moderately firm, or soft and delustered.

RHOZYMES —Concentrated enzyme products, valuable as desizing agents for starch and protein sizes.

TRITONS —Synthetic organic surface-active agents, with a variety of uses as penetrating and wetting agents, emulsifying agents, textile softeners, detergents and dispersing agents.

Stripping Agents —FORMOPON EXTRA, PROTOLIN W and PROTOLIN — zinc hydrosulfites and sulfoxylates, used in stripping colors to assist in the recovery of textile fibres and fabrics.

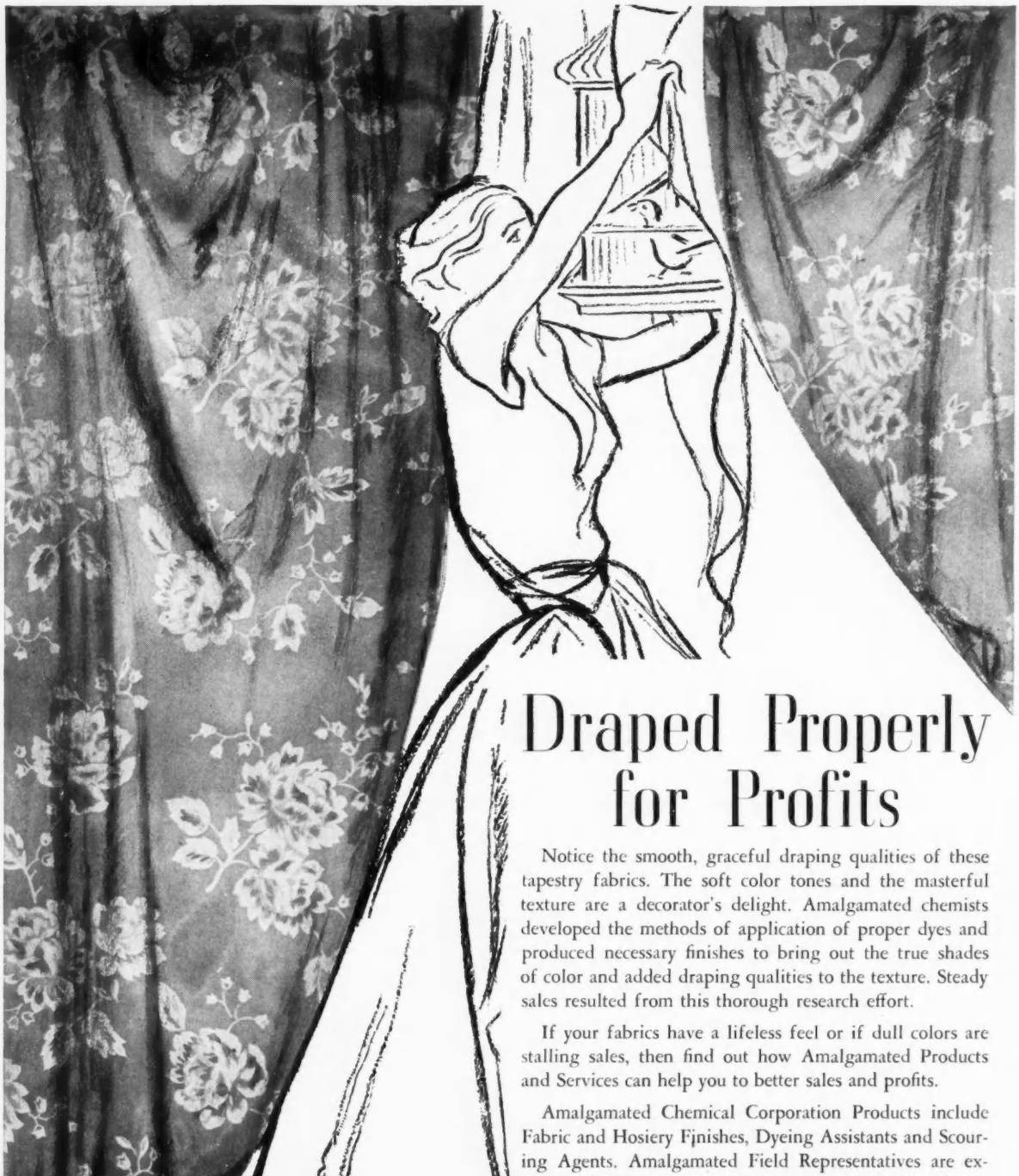
RHONITE, LYKOPON, FORMOPON, RHOPLEX, RHOZYME, PROTOLIN, *and* TRITON *are trade-marks, Reg. U. S. Pat. Off.*

CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries



Draped Properly for Profits

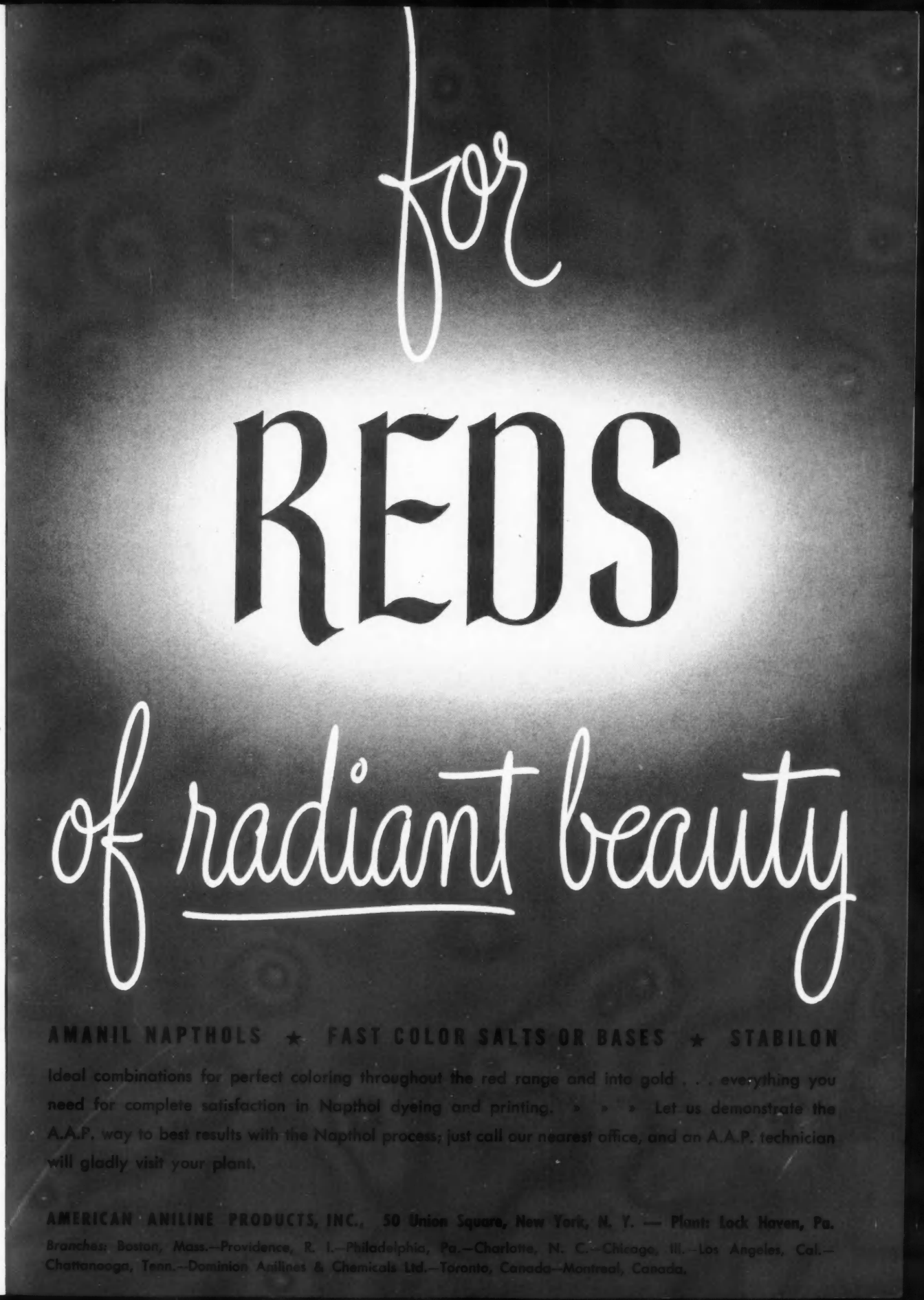
Notice the smooth, graceful draping qualities of these tapestry fabrics. The soft color tones and the masterful texture are a decorator's delight. Amalgamated chemists developed the methods of application of proper dyes and produced necessary finishes to bring out the true shades of color and added draping qualities to the texture. Steady sales resulted from this thorough research effort.

If your fabrics have a lifeless feel or if dull colors are stalling sales, then find out how Amalgamated Products and Services can help you to better sales and profits.

Amalgamated Chemical Corporation Products include Fabric and Hosiery Finishes, Dyeing Assistants and Scouring Agents. Amalgamated Field Representatives are experienced textile chemists, ready to assist and aid with any textile chemical problem. A modern, completely-equipped research and production laboratory is available to you. Better fabrics mean bigger sales—better profits for you. Write or call Amalgamated.

AMALGAMATED CHEMICAL CORP., Phila. 34, Pa.
Southern Division: 1819 Spring Garden Street, Greensboro, N. C.

Amalgamated



AMANIL NAPTHOLS ★ FAST COLOR SALTS OR BASES ★ STABILON

Ideal combinations for perfect coloring throughout the red range and into gold . . . everything you need for complete satisfaction in Napthol dyeing and printing. » » » Let us demonstrate the A.A.P. way to best results with the Napthol process; just call our nearest office, and an A.A.P. technician will gladly visit your plant.

AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y. — Plant: Lock Haven, Pa.

Branches: Boston, Mass.—Providence, R. I.—Philadelphia, Pa.—Charlotte, N. C.—Chicago, Ill.—Los Angeles, Cal.—Chattanooga, Tenn.—Dominion Anilines & Chemicals Ltd.—Toronto, Canada—Montreal, Canada.

NO MORE *TIPPY* WOOL

with

ANTHOMINE*

on the job!

IN ALL WOOL DYEING OPERATIONS *ANTHOMINE* INCREASES THE AFFINITY OF WOOL FIBRES FOR DYESTUFFS.

THIS RESULTS IN LEVEL SHADES WHEN DYEING STOCK, YARN OR PIECE GOODS.

TIPPY AND BLENDED WOOLS ARE DYED A SOLID SHADE BY ADDING *ANTHOMINE* TO THE DYE BATH.

Mills throughout the country use* ANTHOMINE *for:

- **Even dyeing**
- **Brighter, fuller shades**
- **Quicker, better exhaustion of dyebath**
- **Softer, more pleasing "hand"**
- **Reduced processing time**

Send for Technical Service Bulletin #203-100.2 for complete information, including how to use ANTHOMINE for Top and Yarn Dyeing, Pressure or Package Dyeing, Leveling Unevenly Dyed Yarn or Shady Pieces, Dyeing Metallized Colors, etc.

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

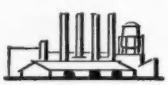
*Reg. U.S. Pat. Off.

Coprantine Colors
CIBA
These colors . . .
are a new class of substantive dyestuffs. They give by the usual direct color procedure, dyeings which when aftertreated, combine with copper salts to form exceedingly stable complex compounds of excellent fastness to both light and washing . . . a particularly effective aftertreatment is the new Coprantine Fixer WF.
ESPECIALLY RECOMMENDED FOR PACKAGE MACHINE DYEING
CIBA

Why you should specify...

HOOKER MURIATIC ACID

IF YOU MANUFACTURE DYES—because Hooker Muriatic Acid is free from sulfates, oxides of nitrogen and iron, impurities that cause precipitates or add unwanted colors to benzidene dye.



IF YOU ARE REFINING HIGHGRADE ORES—because Hooker Muriatic Acid is free from sulfates or sulfuric acid, that cause serious losses in extraction.

IF YOU ARE MAKING PHARMACEUTICALS OR FOOD STUFFS—because Hooker Muriatic Acid is free from sulfates, iron and arsenic, that cause insoluble precipitates, discoloration or contamination.

IF YOU ARE PICKLING OR CLEANING METALS – because Hooker Muriatic Acid is free from arsenic, that may react with liberated hydrogen to form Arsine (AsH_3).

IF YOU MANUFACTURE CHEMICALS—because Hooker Muriatic Acid is of such high quality that you get better yields of better quality and without harmful side reactions.

* * *

Hooker Muriatic Acid is available in two grades—commercial (light yellow color) and Hooker White— (colorless) both free from arsenic. It is shipped in carboys or tank cars and in three strengths, 18°, 20° and 22° Baume. Hooker Technical Data Sheet No. 720 gives Hooker specifications, dilution instructions and other valuable information. Send for a copy on your company letterhead.

From the Salt of the Earth

HOOKER ELECTROCHEMICAL COMPANY

HOOKER CHEMICALS

2 FORTY-SEVENTH ST., NIAGARA FALLS, N. Y.
NEW YORK, N. Y. • WILMINGTON, CALIF. • TACOMA, WASH.

9-1143

SODIUM SULFIDE • SODIUM SULFHYDRATE • SODIUM TETRASULFIDE • CAUSTIC SODA • MURIATIC ACID • PARADICHLOROBENZENE • CHLORINE

A POWERFUL COLLECTOR OF MOISTURE!

CORPOLIN®

HYGROSCOPIC AND PLASTICIZING AGENT

- Attracts and retains the proper amount of moisture in VAT PRINT PASTE.
- Assures valuable savings—costs ½ as much as glycerine, which it replaces without change in print paste formulae.
- A clear, colorless, odorless, non-volatile liquid. Free-flowing.
- NON-TOXIC and NON-FLAMMABLE.
- High uniformity. Every drum identical in quality and analysis.
- Greater hygroscopicity at lower cost. The finest humectant available at any price.

Corpolin is widely used in sizing and finishing to keep warps and fabrics in desired condition.

• • •

Technical data sheet and samples forwarded promptly on request.

• • •

THE AKTIVIN DIVISION

HEYDEN CHEMICAL CORPORATION

393 SEVENTH AVENUE, NEW YORK 1, N. Y.

a new type cation active compound

PERMA PAR ACA-100

100% ACTIVE • 100% SOLIDS

applicable to all fabrics

PERMA PAR ACA-100 is a fatty acid-amine condensate containing no water or inert material.

Used as a finish it exhausts completely from either a long or short bath.

This product imparts a soft, mellow hand to the fabric with a minimum effect on the shade and light fastness of direct colors.

Since it is of an alkaline nature this product can be used as a gas fading inhibitor for acetate colors.

PERMA PAR ACA-100 will not oxidize or go rancid either in storage or on the cloth.

WRITE FOR COMPLETE INFORMATION

Developed by Research **PERMA-PAR*** *Proved by Performance*

TEXTILE CHEMICAL SPECIALTIES

PERMA PAR ACA-100

This new product imparts a soft, mellow hand to the fabric and has a minimum effect on the shade and light fastness of direct colors. Since it is of an alkaline nature, it can be used as a gas fading inhibitor for acetate colors.

REPCOLENE K-50-100%

REPCOLENE K-50-100% is a cocoanut oil fatty acid amine condensate. REPCOLENE K-50-100% finds wide application in the wet processing of textiles as a penetrating, scouring, leveling, dispersing and finishing agent and it can be used to replace 50% of soap in all operations.

REPCOLENE K-50

Can be used to replace from 10 to 50% of soap in all operations. No other water softeners are required and the use of REPCOLENE K-50 improves the penetration of the bath, prevents the precipitation of soap scum in hard water, and eliminates the re-deposition of soil on the fabric.

PERMA SETS

PERMA SET A—used where a firm hand is desired.

PERMA SET B—used to secure a full, soft hand.

PERMA SET A can be used in place of starch to give a permanent firm finish.

PERMA SET B can be used above with PERMA SET A in all applications where a softener and more flexible hand is desired.

PERMA SET B makes an excellent snag resistant finish for nylon, rayon and silk hosiery.

VELVAMINE K-90-SUPER

An improved softening and finishing agent containing no water or inert material. It is suitable for all types of fabrics and it imparts an odorless finish which is resistant to washing and dry cleaning.

PERMA-TERGE

A highly efficient detergent for all types of spun rayons, rayon sheers, rayon crepes, pigments and bright yarns, crepes, taffetas, nylons, aralac and aralac mixtures, acetate and acetate blends.

All products Reg. U. S. Pat. Off.

PERMA KLEER-40

Used in peroxide bleaching, PERMA KLEER-40 has a stabilizing effect on the bath since it sequesters iron and other trace metals which catalyze the rapid release of oxygen. Used in the dye bath, PERMA KLEER-40 eliminates faulty dyeings caused by the presence of traces of iron, copper, calcium, magnesium and aluminum.

TERGEL-T

TERGEL T is a highly efficient detergent for use on all types of spun rayons, rayon sheers, rayon crepes, pigments and bright yarn, crepes, taffetas, nylon, wool-spun rayon mixtures, acetate and acetate blends. It has excellent wetting action and a retarding action on dyestuffs, which promotes uniformity and levelness in dyeing operations.

PERMA-PAR R

An improved cation active finish for all types of fabrics. It is odorless and when used in the last rinse it imparts a soft, spongy, mellow hand. It is resistant to washing and dry cleaning.

General information sheets on all products are available and we suggest that you write for a complete set.

PERMA-PAR K

A two-purpose boil-off compound and softener which serves as a prefinish. It increases dye solubility and color value. Especially recommended for print goods and as a dyeing agent for hosiery.

VELVAMINE K-90

This improved product imparts an odorless finish which is resistant to washing and dry cleaning. A finishing and softening agent for all fabrics. Ideal when used in conjunction with starches, resins, dullers and other finishes where colloidal suspension is desired and acts as a plasticizer to such finishes on the cloth.

PERMALENE SOL

A penetrant and cleaner developed for use on all fabrics, especially tightly woven and high twist materials. Excellent for removing loom grease and graphite. Recommended for pad dyeing where it assures thorough uniform penetration. It is non-foaming at high speeds.

VELVAMINE GF

A blend of amines and softeners designed to protect acetate colors from gas or fumes fading. It resists removal by drycleaning and when used on mixed fabrics, has a minimum effect on the shade and light fastness of the direct colors. Velvamine GF produces a soft, full hand and does not affect the appearance of the treated fabrics.

REPCOLENE

A multi-purpose synthetic auxiliary. A neutral blend of fatty acid esters and aromatic sulphonates. It is a clear, free flowing, non-jelling liquid, an effective wetting and scouring agent which also acts as an excellent dye assistant and levelling agent. Extremely stable, its acidity is not affected by acids, alkalies, lime, or the salts usually found in hard water.

PERMA-CIDE

An outstanding mildew-proofing compound. Comprehensive, comparative tests, made by an independent testing laboratory, show this product to be highly fungistatic, bacteriostatic, bactericidal and fungicidal. The compound is non-toxic, non-irritating and is not a cutaneous sensitizer. All these properties are retained up to 30 washings.

REFINED PRODUCTS CORPORATION

Manufacturing Chemists

LYNDHURST NEW JERSEY

***Manufacturers of PERMA-CIDE, the approved, outstanding, mildew-proofing agent**

Southern Representative: DYER S. MOSS, 1301 Liberty Life Bldg., Charlotte, North Carolina

New England Representatives: E. L. LEGG, 8 Harding Ave., Providence, R. I.
CLARENCE E. MOSS, 19 Wilson Ave., Rumford (16), R. I.

California Representative: SIDNEY SPRINGER, 2300 S. Vermont Ave., Los Angeles 7, California

Canadian Selling Agents: Berkeley Products Canada, Ltd., 41 Hillcrest Ave., St. Catharines, Ontario, Canada

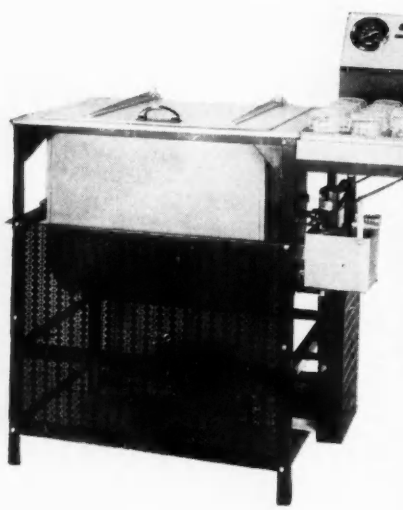
Exporting Agents: Chem-Col Company, 82 Wall St., New York City

ATLAS-OMETERS

for more than 25 years the textile industry's standard machines for testing

★ color fastness
★ shrinkage
★ detergency
★ bleeding
★ resistance to mechanical action, etc.

ATLAS LAUNDER-OMETERS



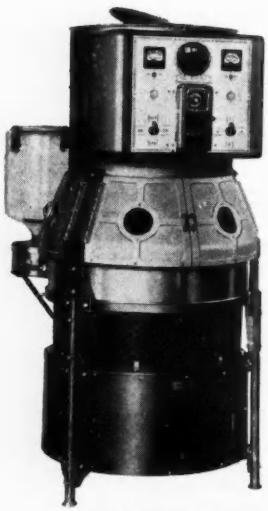
As the standard washing machine of the A.A.T.C.C., the Launder-Ometer is used to reproduce quickly the destructive effects of commercial laundering practices on all types of fabrics. Under these accelerated conditions, factual information is obtained that enables manufacturers to accurately predict color fastness to soaps and detergents, and resistance to bleeding, shrinking, washing and mechanical action. In addition, the Launder-Ometer is used for dyeing tests at boiling point.

Precision controls in the Launder-Ometer permit careful regulation of all factors, and identical reproduction of tests whenever desired. With its big capacity, the machine permits as many as 20 tests to be run simultaneously. The Atlas Pre-heating Loading Table—standard equipment on Launder-Ometers—makes it possible to start all tests at the same temperature, for greater accuracy. Mechanical action is provided by the introduction of stainless steel spheres or rubber balls into each container.

Located behind the Pre-heating Table, at the most convenient height is the modern control cabinet housing all switches, pilot lights, indicating and control instruments, and direct-reading dial type thermometer. Launder-Ometers are available for use with electricity, steam, gas, or both electricity and steam for heating the water bath. All machines are easily adapted to receive any type of container now under consideration by the A.A.T.C.C.

Two other Launder-Ometer models, specifically designed for research testing, are included in the Atlas line. These machines can accommodate larger samples and are available with container capacities from 20 pint to 6 half-gallon jars.

ATLAS FADE-OMETER



The Fade-Ometer brings under laboratory control the deteriorating action of sunlight on any material or type of finish. Used primarily to measure the light fastness of colors, the Fade-Ometer is also used to determine other photochemical changes caused by exposure to sunlight.

In making tests, samples in masked holders are rotated around an Atlas Carbon Arc—the closest approach to natural sunlight—at a fixed distance from the arc and at a constant speed in order to assure equal distribution of light to each sample. Upper and lower suspension rings keeps samples in proper vertical alignment. Color fastness is measured in terms of Standard Fading Hours, using new calibration paper.

Operation of the Fade-Ometer is fully automatic. The simple, but complete control panel includes voltmeter, ammeter, running time meter, time switch, thermo-regulator, pilot lights and switches, which serve to keep all variable factors—time, temperature, humidity, and light—under accurate control.

The Fade-Ometer may safely be left in continuous operation overnight. It is available for either AC or DC service, and with a wide variety of sample holders and exposure masks.

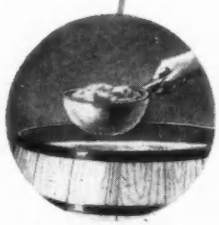
Manufacturers of the Twin Arc and the XIA Weather-Ometers

ATLAS ELECTRIC DEVICES COMPANY 361 West Superior Street, Chicago 10, Illinois

a BARREL of ECONOMY

ATCOSYN PASTE

A SYNTHETIC DETERGENT



No Waste!

Convenient and easy to use. Easily soluble. Gives maximum scouring without causing harsh hand. Stable in hard water conditions at any temperature. Good sequestering abilities. Available in a range of varying active ingredient contents.

Special Recommendation! ATCOSYN WS — For the toughest scouring jobs (pulled wool, etc.)

ATLANTIC CHEMICAL CO., INC.
CENTREDALE, RHODE ISLAND
Exclusive Eastern Distributors of Reichhold Fabrez Synthetic Resins

ATCOSYN paste sample yours on request.

FOR YOUR INFORMATION

TYPICAL CATALYST AC DATA

BATH STABILITY AT 25° C.

Bath Solution	With 6% DAP (35% sol.)	With Catalyst AC
20% Resloom HP	1 hour*	11 hours
33.3% Resloom M-75	15 hours	Stable after 24 hours
36.4% Urea-formaldehyde	8 hours	Stable after 24 hours

*Note: DAP is not *recommended* for Resloom HP.

CURE TIME

Conditions: Hot plate at 300° F. Cure time = time to set resin to infusible solid. Cure Time (in seconds).

Resin & Bath Concentration	With 6% DAP (35% sol.)	With Catalyst AC
20% Resloom HP	3 sec.	2 sec.
33.3% Resloom M-75	12 sec.	11 sec.
36.4% Urea-formaldehyde	2 sec.	2 sec.

The foregoing figures were obtained by testing the resin itself by curing on a hot plate. Under these conditions the time of cure is much less than could be expected when the resin is in the fabric, since time must elapse to heat up the fabric as well as the resin it contains.

RESIN RETENTION

Duplicate sets of fabric samples (80² White Cotton Sheeting) were treated with Resloom HP, Resloom M-75 and urea resin. One set was cured with DAP, as the catalyst; the other was cured with Catalyst AC. Both sets were given three AATCC standard cotton launderings. The percent of resin retention was determined before and after washing from the percent nitrogen by Kjeldahl analyses.

Resin	Catalyst	After Curing % Resin	% Resin After 3 AATCC Washings
Resloom HP	6% DAP (35% sol.)	13%	9%
	6% Catalyst AC	13%	12%
Resloom M-75	6% DAP (35% sol.)	9%	7%
	6% Catalyst AC	9%	8%
Urea resin	6% DAP (35% sol.)	10%	9%
	6% Catalyst AC	10%	9%

Results to date indicate that resins cured with Catalyst AC are retained as well or somewhat better than with earlier catalysts. Consequently, fabrics can be expected to have improved washability.

Cotton and Rayon Mills get seven advantages with Catalyst AC

Catalyst AC was developed to eliminate two main difficulties mills met with diammonium phosphate: short bath life, and incompatability with useful softeners and penetrants.

Catalyst AC overcomes these difficulties and gives mill men a number of added advantages. With Catalyst AC you get:

1. Reduced odor problem.
2. More than twice the useful bath life gained with diammonium phosphate.
3. Resin retention at least equal to, and in most cases substantially better than diammonium phosphate.
4. Curing rates equal to, or substantially faster than those with diammonium phosphate.
5. A softer, more desirable hand on cotton and rayon fabrics where crush resistance, shrinkage control, and stability is required.
6. Elimination of refrigerating baths.
7. Compatability with most cationic, anionic, and non-ionic softeners and penetrants.

Catalyst AC now available in steel drums

Monsanto has switched Catalyst AC containers from glass carboys to non-returnable steel drums. The move eliminates returns and deposits, makes Catalyst AC easier and more economical to handle!

- MANY OF THE LARGEST FINISHERS
- WITH THE LARGEST RESEARCH STAFFS
- ARE USING MORE AND MORE CATALYST AC

Best compliment you can pay a product is to buy it, use it, and then *re-order* it. That's the kind of compliment we've been getting on Catalyst AC from some of the largest cotton and rayon finishers in the country. These are the mills with the research staffs and laboratories to make sure the product is right. These are the mills with the cost-control systems to make sure that their processes are *economical*. And these mills . . . with their highly qualified experts on textile processing chemicals ...are proving Catalyst AC by their orders and re-orders.

Catalyst for Cost Cutting: Important operating economies can be made with Catalyst AC, especially by mills on shifts. That's because Catalyst AC reacts faster when you want it fast (in the curing oven) and slower when you want it slow (in the bath). It will not cause polymerization in the bath for 24 to 48 hours. The result is that you save refrigeration costs common with diammonium phosphate; and you get a product that's easier and cheaper to handle on overnight shutdowns.

Greater Resin Retention after Washing: Your melamine or urea finish stays on the fabric longer with Catalyst AC, as shown in the resin retention table on the left-hand page. Better washfastness in a cotton or rayon finish is a *consumer* advantage which is reflected quickly in *mill* sales.

FOR UREA AND MELAMINE FINISHES

Cotton and rayon mills find Catalyst AC effective on both melamine and urea finishes. If your mill uses urea finishes for crush resistance, fabric stability or shrinkage control on cottons or rayons, you'll find that Catalyst AC can lower your processing costs...raise your efficiency, and give you a higher-quality fabric.

Send the coupon for full information.

SERVING INDUSTRY . . .
WHICH SERVES MANKIND

MONSANTO
CHEMICALS — PLASTICS

MONSANTO CHEMICAL COMPANY
Textile Chemicals Dept., Desk ADT 24
Everett Station, Boston 49, Mass.

☐ *Please send full technical information on Catalyst AC.*

Name _____ Title _____

Firm _____

Address _____

City _____ Zone _____ State _____

Proper processing makes sleeping beauty come to life

Experienced textile people know that beauty, life and sparkle make fine fabrics even more valuable—and that these qualities depend in large measure upon proper processing.

That explains why so many of America's leading mills, converters, finishers and dyers have turned to Colgate-Palmolive-Peet for high-quality wetting, fulling, scouring and dispersing agents.

Remember, there is a C. P. P. soap or synthetic detergent for every type of fabric—for every processing problem. Ask your local Colgate-Palmolive-Peet representative for details. Or, write today to Industrial Department, Colgate-Palmolive-Peet Co.

This waffle-piqué is made of 100% fine cotton in a variety of print designs and solid, fast colors. Washable.

COLGATE FORMULA 25

For low-temperature washing ordinarily requiring olive oil soaps. Sold in eastern states only.

COLGATE WHITE SOAP FLAKES

High-grade thin white flakes. Not milled or polished. 90% anhydrous soap.

ARCTIC CRYSTAL FLAKES

Made from pure tallow, guaranteed to contain 88% or more soap. Titer approx. 42°C.

ARCTIC SYNTEX A, T, AND M

Synthetic detergents and wetting agents. Unsurpassed for many processing operations.

COLGATE FORMULA 10

92% oleic acid soda soap in flake form for silk degumming, wool scouring, all textile processing.

Colgate-Palmolive-Peet Company

Jersey City 2, N. J. • Atlanta 3, Ga. • Chicago 11, Ill. • Kansas City 3, Kans. • Berkeley 2, Calif.

The Race is to the Swift!

For Prompt Delivery of Dyestuffs

specify *National Aniline Dyes*

NATIONAL ANILINE DIVISION • ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y.

BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND, ORE.
GREENSBORO • CHARLOTTE • ATLANTA • NEW ORLEANS • CHATTANOOGA • TORONTO

CALCOSOL* BROWN BR PASTE
A VAT DYE
FAST TO LIGHT AND WEATHER
BUILDS UP WELL

For real chocolate-brown fabric shades having exceptional fastness to light and weather, the new Calcosol Brown BR Paste is an improvement over most types of vat brown. Used also for tans, it maintains its shades well in artificial light, exhibits good level dyeing properties and builds up well.

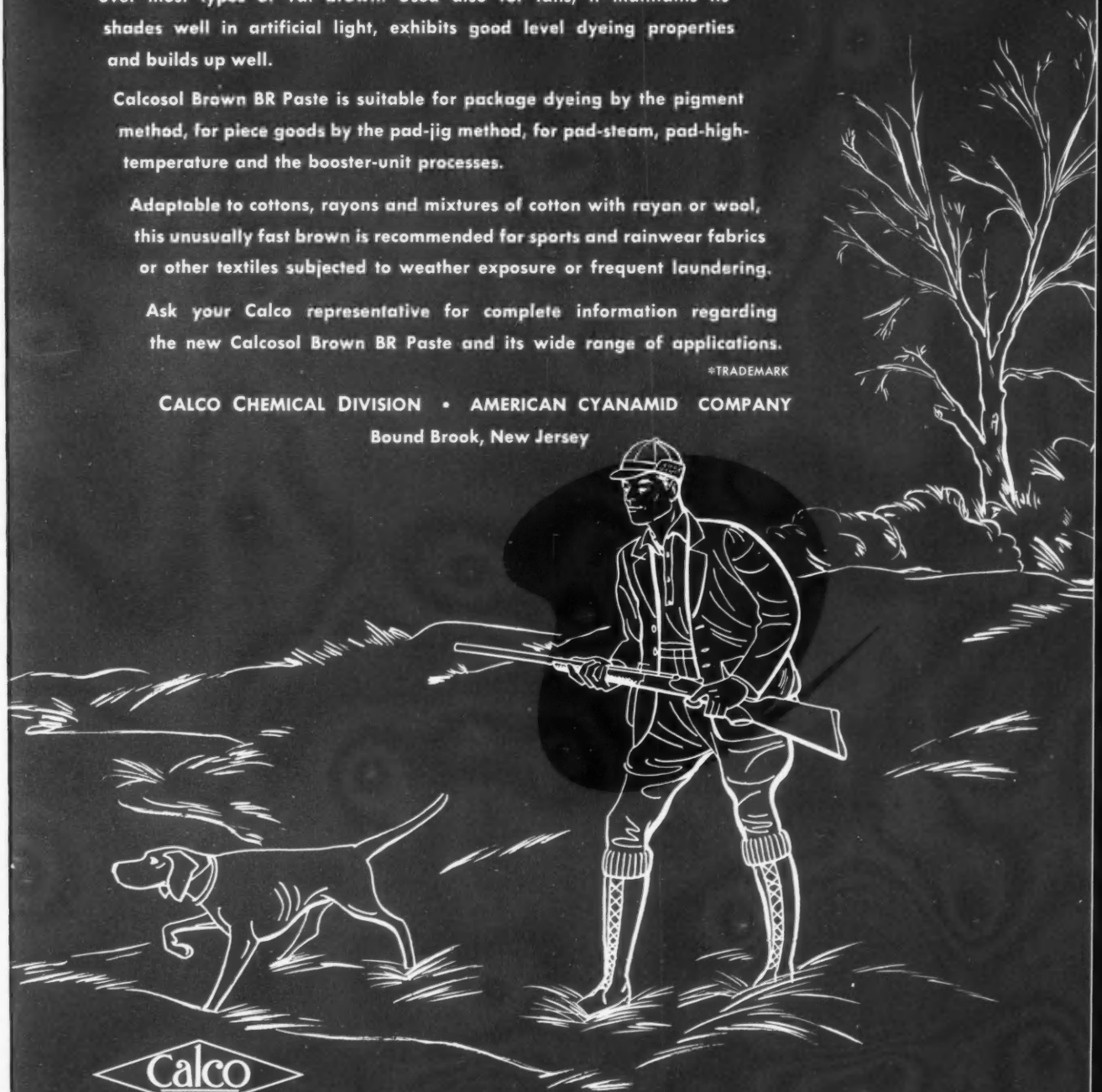
Calcosol Brown BR Paste is suitable for package dyeing by the pigment method, for piece goods by the pad-jig method, for pad-steam, pad-high-temperature and the booster-unit processes.

Adaptable to cottons, rayons and mixtures of cotton with rayon or wool, this unusually fast brown is recommended for sports and rainwear fabrics or other textiles subjected to weather exposure or frequent laundering.

Ask your Calco representative for complete information regarding the new Calcosol Brown BR Paste and its wide range of applications.

*TRADEMARK

CALCO CHEMICAL DIVISION • AMERICAN CYANAMID COMPANY
Bound Brook, New Jersey



Calco
REG. U. S. PAT. OFF.

NEW YORK • CHICAGO • PHILADELPHIA • BOSTON • CHARLOTTE • PROVIDENCE

WIPE OUT STATIC

from Your Production Picture with NOPCO* 1656-R the antistatic oil that assures better WORSTED production

Today, when speeded-up processes in worsted yarn manufacture tend to promote static, you'll find Nopco 1656-R an ideal trouble killer.

Fibers treated with this specifically formulated oil remain static-free throughout carding, gilling, combing and drawing operations.

You'll avoid "wild" and broken ends, produce even-running, quality yarn with this new, antistatic lubricant.

Nopco 1656-R also ***eliminates*** oxidation, and ***reduces*** soap costs **75%**. In fact, this remarkable new oil enables the worsted manufacturer to obtain exceptionally good results—comparable to those achieved by users of famous Nopco FUA oil for processing wool.

Yes, Nopco 1656-R means HIGH QUALITY WORSTED YARNS PRODUCED ECONOMICALLY . . . and in these competitive days what is of more importance to you?

Ask your Nopco representative for full details, or write today for complete information.

NOPCO TRADEMARKS EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY

Formerly National Oil Products Company

HARRISON, NEW JERSEY

Branches: Boston • Chicago • Cedartown, Ga. Richmond, Calif.

* Reg. U. S. Pat. Off.

up from the minor leagues

comes stainless sheet and strip

Stainless steel has now moved up to the major leagues. Advances in strip mill techniques have played an important part. Now, CRUCIBLE, using the best of these accepted modern techniques, plus exclusive ones of its own . . . is producing stainless by specialty steel production methods at the busy Midland Works. In the *first* mill *specifically* built for the production of stainless, top steel specialists are putting to good use $18,000,000 of new tools and buildings. When the leader in the specialty steel field applies specialty steel production methods to stainless, you can rightly expect that from CRUCIBLE you'll get the best that a half century of experience and modern tools can provide.

The new mill will produce stainless in widths of ½″ to 50″ inclusive, in all gauges, grades and finishes. This is important news to users of stainless steels, because with Trent Tube Company joining the organization, you can get stainless from Crucible in every form: sheets, strip, plates, bars, wire, forgings, castings and tubing. Crucible offers comprehensive data sheets and unsurpassed metallurgical service. Your inquiries are welcome.

CRUCIBLE STEEL COMPANY OF AMERICA
405 Lexington Ave., New York 17, N. Y.
Branches, Warehouses and Distributors in Principal Cities

CRUCIBLE first name in special purpose steels

hot and cold rolled **STAINLESS SHEET AND STRIP**

STAINLESS • HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE • STEELS

Be Sure to See these

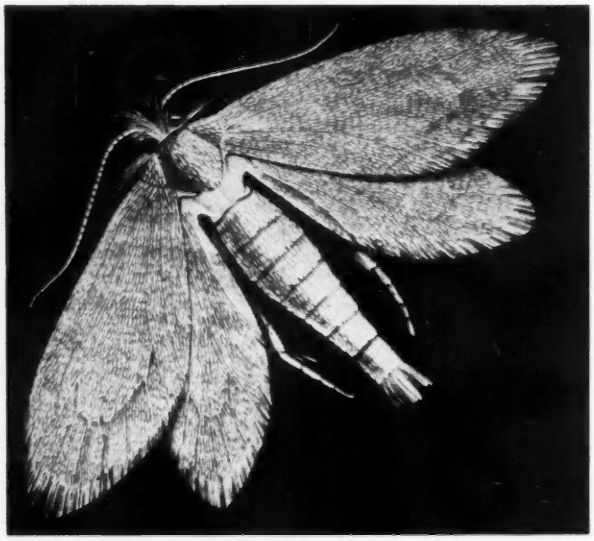
GEIGY demonstrations

at the Show

MOTHS AT WORK

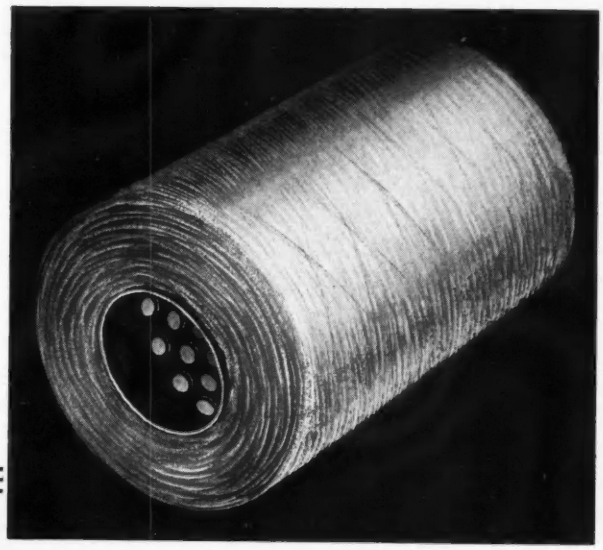
An interesting and unusual display showing a series of tests on Mitin-treated and untreated fabrics*. The tests will cover 1, 2 and 3 week periods just as they are run in the Geigy Insecticide Research Laboratories.

Geigy technicians will be on hand for discussion of mothproofing.



If you can't attend the Convention literature covering both display subjects is available on request.

BOOTH 13
AATCC
National Convention
Atlantic City



BOIL-FAST NYLON DYEING

A series of dyeings in various forms will be on display illustrating

Development of Chromed Dyes on Nylon by Steaming Under Pressure —U. S. Patent No. 2,421,131*

A comparison of results obtained by this method and conventional dyeing procedures will be shown. Diagram showing the slight changes necessary to package equipment to accommodate this Geigy process will be available.

Geigy

Dyestuff Makers Since 1859

GEIGY COMPANY, *Inc.*

89-91 BARCLAY STREET, NEW YORK 8, NEW YORK

BRANCH OFFICES: Boston • Charlotte, N. C. • Chicago • Los Angeles • Philadelphia Portland, Ore. • Providence • Toronto

IN GREAT BRITAIN: The Geigy Co., Ltd., National Buildings, Parsonage, Manchester

IT'S A BRAND NEW IDEA

PLUS NEW UNIT MACHINE

that puts the idea to work for you

HINNEKENS REVOLUTIONARY
COMBINED CONTINUOUS PROCESS

(Machine and processing patents are being applied for)

for

DESIZING OR CAUSTICIZING
BLEACHING
SCOURING and CLEANING
of SYNTHETIC YARN FABRICS

COMPARATIVE TIME SCHEDULES:

- For the new process—40 seconds for desizing, bleaching, and preparing for scouring.
  —4 to 5 minutes for scouring, cleaning, etc.
  —one continuous processing—no transfer of goods.
- By the old methods—4 to 6 hours and several transfers of goods.

Labor Required:

- For the new process—3 men.
- For the old process—6 men.

Other Advantages of This New Process:

1—At no time during the critical processing phase are goods subjected to lengthwise or crosswise stretch.
2—Goods for printing on white grounds never need see the dyehouse.
3—Affinity of fabrics for dyestuffs in deying and printing is considerably improved.
4—Dyestuff draws perfectly even—there's no blotching.
5—Silk may be degummed in 1/5th of the usual time required by old process.
6—If desired this unit in part can also be used in conjunction with the Hinnekens Loop Boil-Off Unit.

More than one million yards have been successfully processed by this new method.

HINNEKENS MACHINE CO., INC., 207 Godwin Avenue, PATERSON, N. J.

HINNEKENS

Exclusive Manufacturers of this Machine

Announcing PARNOL

More than just a highly effective detergent—a surface-active agent of exceptional merit as well.

In the dyeing and finishing of textiles, PARNOL is already proving the value of its unique combination of exceptional wetting properties and high detergent characteristics. It is an anionic dodecyl-toluene sulfonate whose molecular structure maintains that hydrophilic-lipophilic balance so necessary for efficient, economical processing of materials.

PARNOL is a spray-dried, free-flowing, non-hygroscopic white powder with little or no odor, stable in acid or alkali solutions of percentages encountered in textile manufacturing. It produces exceptionally high and lasting foam in either hard or soft water.

As the typical analysis shows, PARNOL has an unusually high percentage of active matter. Its effectiveness, both as a wetting agent and as a detergent, is shown by the Draves and the Ross-Miles tests, given below. Its detergent powers in hard and soft water are further evidenced by reflectance measurements in Launderometer tests.

Full information and samples will be sent on request.

A TYPICAL ANALYSIS

Active Matter	41.25% (Dry basis)
Inorganic Salts (principally Na_2SO_4)	58.20% (Dry basis)
Unsulfonated Material	0.55% (Dry basis)
Moisture	1.70%
pH (1% solution)	7.50

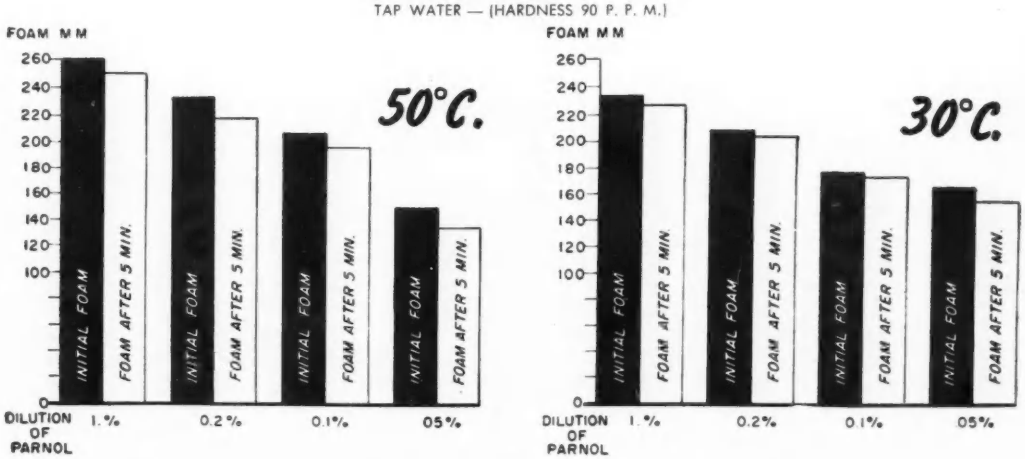
DRAVES WETTING TEST

TAP WATER — (HARDNESS 90 P. P. M.)

DILUTION	TIME
0.25%	6 sec.
0.20%	10 sec.
0.15%	12 sec.
0.10%	15 sec.

ROSS-MILES TEST

TAP WATER — (HARDNESS 90 P. P. M.)



For full information on PARNOL and sample, send the coupon below.

WOLF BRAND PRODUCTS

JACQUES WOLF & CO.

Chemicals PASSAIC, N. J.

OTHER PLANTS: CARLSTADT, N. J. • LOS ANGELES, CALIF.

WAREHOUSES: Providence, R. I., Philadelphia, Pa., Utica, N. Y., Chicago, Ill., Greenville, S. C., Chattanooga, Knoxville, Tenn.

Manufacturers of Monopole Oil, Superclear, Oratol, Wetsit, Lomar, Lupomin, and other chemical specialites

Jacques Wolf & Co. AD-10
P. O. Box 839, Passaic, N. J.
☐ I want to know more about PARNOL.
☐ I would like test sample for use in.....
Name.....
Title.....
Company.....
Address.....

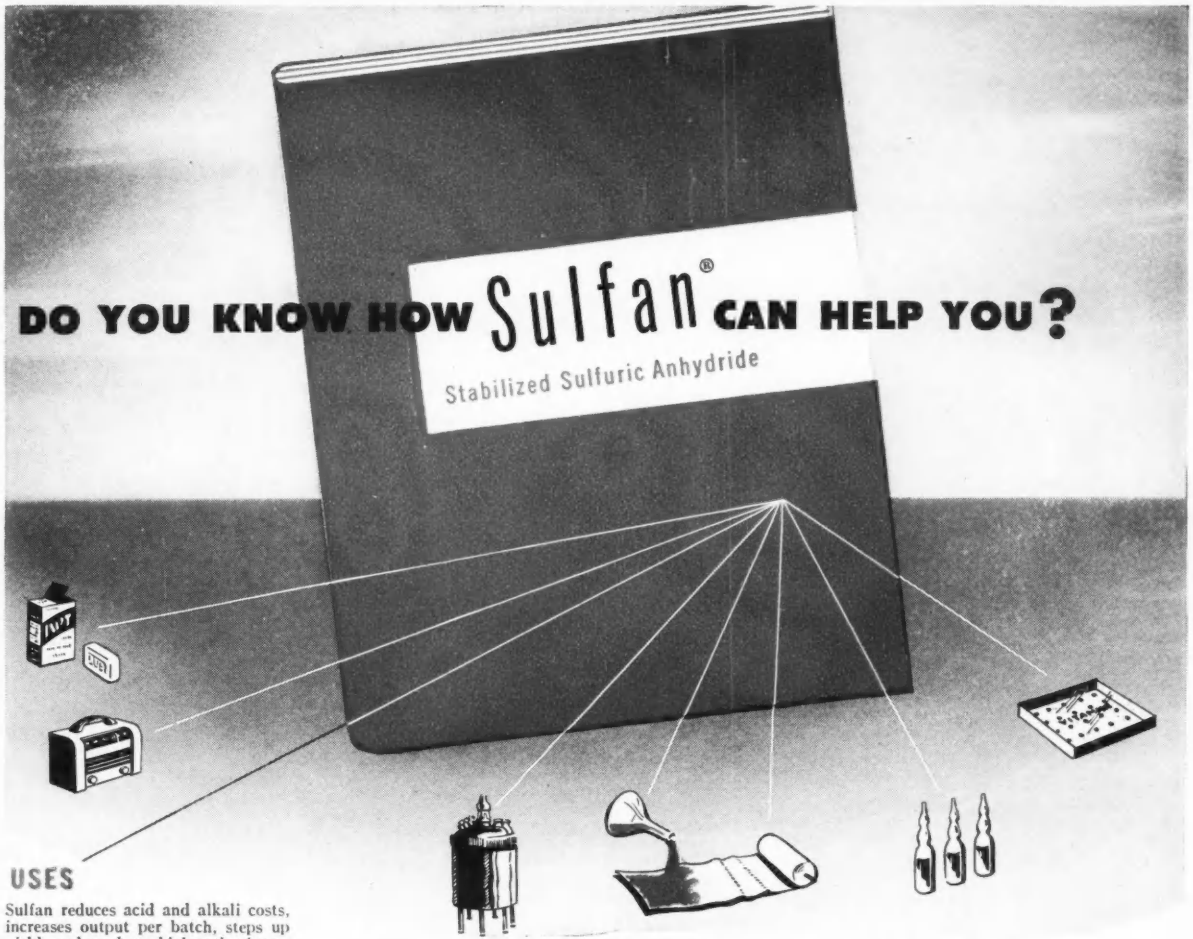
TEXTILE CHEMICALS . . .

DARVAN
DISPERSING AGENT
for dyeing, printing and back filling.
NYTAL & PEERLESS
TALC AND CLAY
for talc and filler applications.
VANESTA
STARCH STABILIZER
for uniform sizes and print pastes.
VANCIDES*
NON-TOXIC
FUNGICIDES AND BACTERICIDES
for protection against Mildew and Spoilage.
*VANCIDES are a new group of Fungicides and Bactericides that are EASY and SAFE to use. Excellent for protection of textiles, waxes, emulsions, starches—lumber, paper ..... many other uses. Further information upon request.

DESCRIPTIVE LITERATURE UPON REQUEST

R. T. VANDERBILT CO. INC.

230 Park Avenue, New York 17, N. Y.



USES

Sulfan reduces acid and alkali costs, increases output per batch, steps up yields and produces high active ingredient content or completely salt free materials in these reactions:

Sulfonation of alkylated aromatics to produce synthetic detergents
Sulfonation of fatty acids to give hydrolysis-resistant wetting agents
Sulfation of alcohols
Mono- and polysulfonation of aryl compounds to produce dyestuff intermediates
Direct sulfonation of aliphatic compounds

Sulfan also demonstrates advantages in the following applications:

Elimination of mixed sulfonates in benzenoidal sulfonations
Adjusting the concentration of high strength oleums
Fortification of spent sulfuric acid and oleum
Formation of addition compounds with amines
Direct production of sulfones

BASIC CHEMICALS
FOR AMERICAN INDUSTRY
50 YEARS OF SERVICE

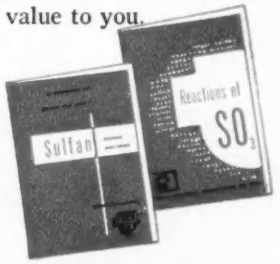
Industry's Newest Chemical Tool!

With General Chemical "Sulfan," industry has *workable* Sulfuric Anhydride at its command for the first time in chemical history . . . SO_3 in stabilized liquid form! "Sulfan" makes realities of the many promising uses Sulfuric Anhydride has long been known to hold.

The economical application of "Sulfan" in the unit process of sulfonation is already established; other uses are fast becoming commercial realities. To put this new chemical to work in your operations, draw upon the special application data General Chemical Research has developed for various processes. An outline of your particular requirements will enable us to compile material of greatest immediate value to you.

HELPFUL TECHNICAL BULLETINS . . .

General Chemical Technical Service Bulletin SF-1 (SULFAN) and Technical Service Bulletin SF-2 (Reactions of SO_3) provide extensive data on the physical and chemical properties of "Sulfan," together with a summary of more than 400 references found in the chemical literature concerning the reactions of sulfuric anhydride. You will find these excellent source material for fundamental research and product development, as well as production.



GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.
Offices in Principal Cities from Coast to Coast

KEEPING AHEAD

In Corrosion-Proof Construction

THROUGH RESEARCH

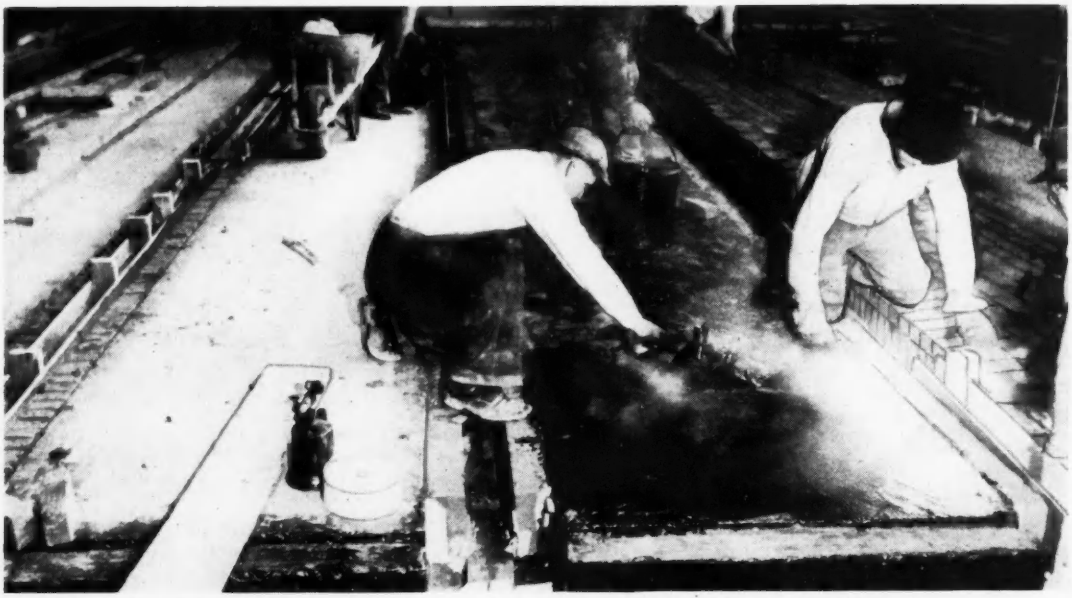
ATLAS leadership is the direct result of ATLAS research. Exploration and experimentation by competent chemists and engineers in the expanded ATLAS laboratories will keep ATLAS ahead in the field of corrosion-resistant construction.

ATLAS SERVICE IS COMPLETE

A complete line of materials: cements, linings and protective coatings, plus design and field supervision, is offered.

WHEN YOU PLAN NEW CONSTRUCTION

Names to remember are:
TEGUL-VITROBOND (R), KOREZ (R), CARBO-KOREZ (R), ALKOR, VITREX, REWBON, NEOBON, ZEROK and ATLASTISEAL.



An ATLAS Corrosion proof floor being installed in a modern southern rayon plant. Acid-proof brick, joined with ALKOR (the original furane base acid and alkali resistant cement) is set over an ATLASTIC No. 31 (Asphalt) membrane coated on a concrete base.

THE ATLAS MINERAL PRODUCTS COMPANY

MERTZTOWN, PENNA. **HOUSTON, TEXAS**

naphtols
fast color salts and bases

complete color range brilliant shades of red, scarlet, orange, yellow, green, blue, violet, brown and black.

fastness excellent fastness to light and washing.

versatility for dyeing fast colors on cotton and rayon yarn and piece goods . . . ground shades on cotton and rayon for white and colored effects . . . for prints on naphtol prepare . . . selected combinations for dyeing silk and nylon.

application simple and rapid . . . can be dyed on continuous range and all other types of equipment . . . G. D. C. naphtols have superior solubility, stability and wetting-out properties.

economy low cost . . . ease of application.

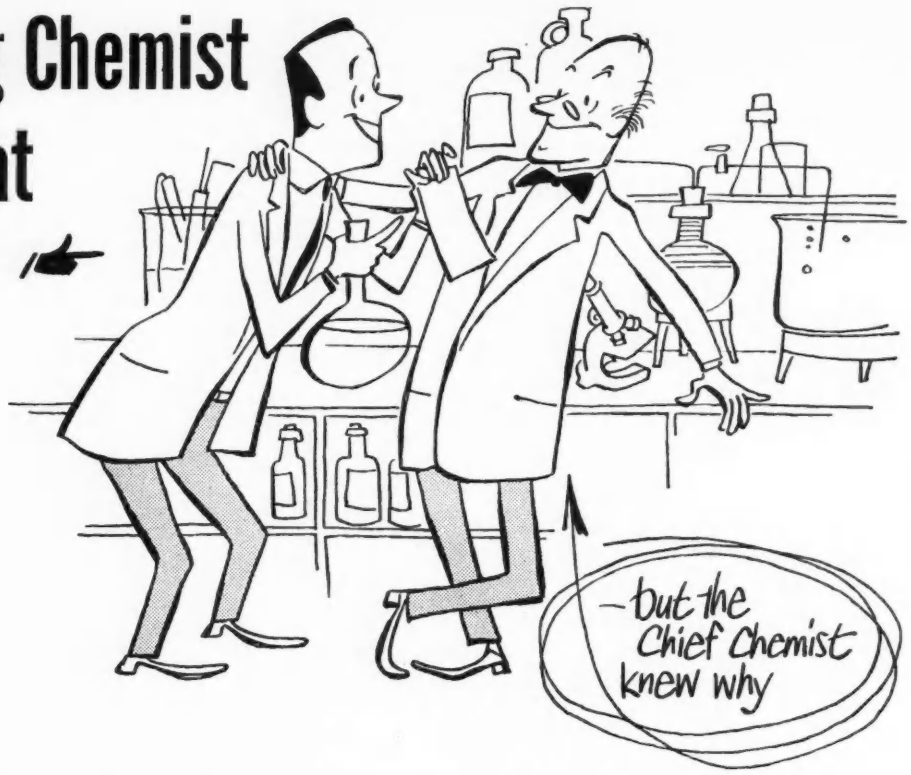
deliveries stocks carried in warehouses strategically located throughout the country insure prompt deliveries.

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET · NEW YORK 14, NEW YORK

BOSTON · CHARLOTTE · CHICAGO · PHILADELPHIA · PROVIDENCE · SAN FRANCISCO

The Young Chemist Knew What



ALL the chief chemist said to the new assistant was, "Whenever you get time, take a look around the plant. See what's the score."

The new chemist started looking where the water came into the plant and he stopped where the goods went out. He saw plenty. Especially Calgon.

"That must be wonderful stuff," he told his chief. "Seems to me we use it everywhere."

"THINK SO?"

"Well, it's in the whole plant water supply. The plant engineer showed me how it licks corrosion. Says it saves a lot on piping maintenance."

"That's his part in the story," said the Chief Chemist. "Calgon also reduces iron pickup from our pipe lines and that, as you know, gives us brighter colors in dyes sensitive to iron."

"I found Calgon used in the kier boil, too. Practically no scum on top of the kiers. Cleanest I ever saw."

"We use a milder bleach, too," said the Chief Chemist, "because the goods come out whiter from the kier. You probably found out we use Calgon in the dyebath itself."

"YES," said the new chemist, "I found out a lot about Calgon. It eliminates soap film, aids in the dispersion of dyestuff, gives us cleaner goods, brighter shades, and shades less likely to crock."

"In fact," he continued, "there's just one thing I don't quite understand. Why do we use only *Calgon?* After all, it's only a phosphate glass."

"That's right," his chief agreed, "and that stuff under Fort Knox is only pure gold."

"Seriously, though," he continued, "I'm glad you asked that question because it comes up every year. Calgon chemists developed the use of phosphate in textile processing, and showed the industry how to use it. I wish I could say we continue to buy Calgon out of loyalty to the company that started the whole thing—but it wouldn't be true."

"THE FACT IS," the Chief Chemist concluded, "we use Calgon* because it pays out in dollars and cents. We *know* we'll get the same high, uniform quality in every bit of Calgon we buy. More than that, we know that those same Calgon chemists are continuing to work on textile problems, and are always willing to help us out when we run into trouble—as we do from time to time. This adds up to *results* . . . and that's what you and I are being paid for."

"I SEE," said the young chemist. And being a bright young chemist, he really did.

calgon?

*T. M. Reg. U. S. Pat. Off.

HAGAN HALL BUROMIN CALGON

calgon, inc.

A SUBSIDIARY OF HAGAN CORPORATION

HAGAN BUILDING PITTSBURGH 30, PA.

at your service

So that users of Eastman Acetate Dyestuffs in New Jersey, Pennsylvania, New York, and New England may avail themselves of the full benefit of Eastman laboratory testing and technical services, Tennessee Eastman Corporation maintains a well equipped modern dyestuff laboratory at Lodi, New Jersey.

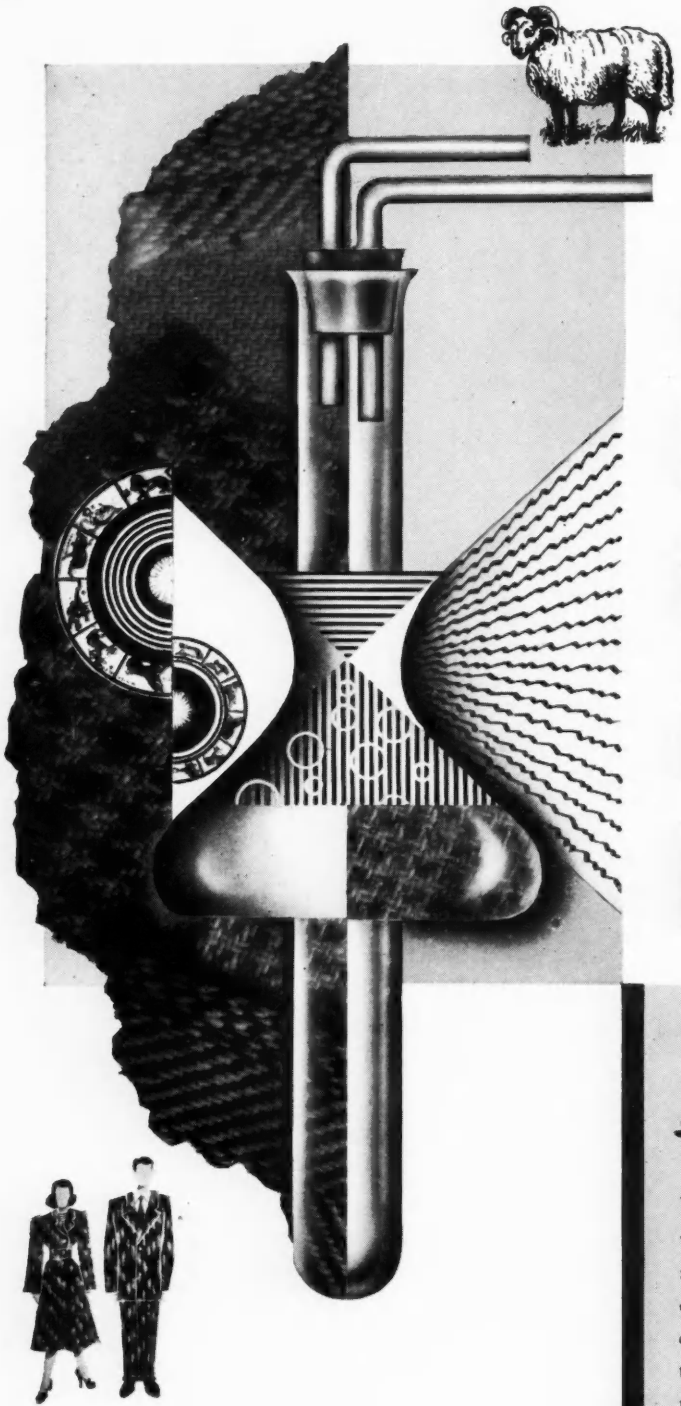
This central location is also the site of a warehouse in which is stocked at all times a full line of Eastman Acetate Dyestuffs for prompt deliveries to dyers in those areas.

Eastman Acetate Dyestuffs, obtainable in a wide variety of colors, are developed especially for the dyeing of synthetic fibers by scientists who have had long experience in the production of colors for cellulose products. These dyestuffs are manufactured under strict control in a modern plant to assure uniformly high-quality materials.

Tennessee Eastman Corporation (Subsidiary of Eastman Kodak Company)

Eastman Acetate Dyestuffs

• Eastman Acetate Dyestuffs are also sold through Tennessee Eastman Corporation in Kingsport, Tennessee, and in Canada through Clough Dyestuff Company Ltd., 33 St. Mathieu St., St. Laurent, Quebec.



a new fabric is born

BUT...

How Will it Scour?

With a yard of your fabric in the grease we are in a position through our research laboratory to give you a complete detergency analysis. Join our many customers who are enjoying this service that offers you the most economical procedure for scouring your fabrics.

A Watson-Park representative will be glad to discuss your problems with you, or if you wish, just mail us the material you desire analyzed.

WATSON-PARK CO.
261 FRANKLIN ST. BOSTON, MASS.
FACTORY · LOWELL JUNCTION · MASS.

lower de-sizing costs

RAPIDASE®

for Cottons, Rayons, Mixed Goods

An amylolytic enzyme preparation particularly adapted for faster, more economical de-sizing in any equipment. Its wide range of operation temperatures permits highest speed with most economical production. Its starch-solubilizing action is doubled with each 18° rise in temperature between 120° and 200° F.

higher quality work

SERIZYME®

for Acetates and Acetate-Rayon Mixtures

A proteolytic enzyme product that safeguards against streaky dyeing . . . Produces a finer hand . . . Assures uniform quality . . . Clearer cross dyes. SERIZYME liquefies protein and albuminous sizes and removes them completely.

Our technicians are available to visit your plant on request . . . Write for technical booklet.

WALLERSTEIN COMPANY, INC. 180 MADISON AVENUE, NEW YORK 16, N. Y.

Reg. U. S. Pat. Off.

CARBIC COLOR AND CHEMICAL CO., Inc.

451-453 Washington Street, New York City

BRANCHES:
PHILADELPHIA
PROVIDENCE HAMILTON, ONT.
CHARLOTTE, N. C.

IMPORTERS OF THE MANUFACTURES OF
DURAND & HUGUENIN S. A.
BASEL, SWITZERLAND

EXCLUSIVE DISTRIBUTORS OF
PHARMASOLS
PHARMOLS
PHARMACINES

Representative: Los Angeles (Hathaway Allied Products)

PHARMASOLS*

How efficient is your wetting agent?

This comparative test, made quickly in your office, will tell you!

Textile chemists are familiar with the canvas disc test which gives a true comparative picture of the speed of wetting agents.

To make such a comparison in your office, and to bring you the facts about our new SURFAX series, each Houghton Man in textile areas is equipped with a test kit as pictured above.

Ask him to demonstrate it to you, using your mill water, and checking Surfax 1288 against any other wetting agent you may have used. We'll rest our case on the results. To sum it up, you'll find you can use a lower concentration of Surfax (which means lower cost) and get faster wetting.

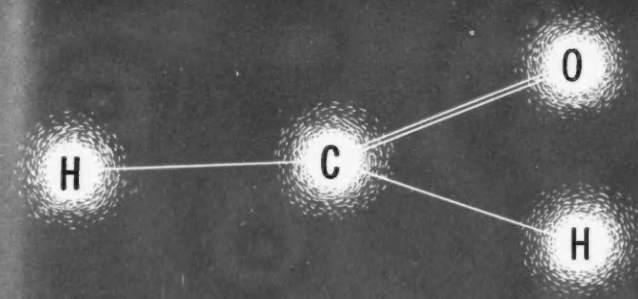
That's why we say Surfax 1288 is a great money value. With it you can reduce wet processing costs and speed up your operations.

And while you are discussing surface active agents, ask the Houghton Man also about the best type of CERFAK detergents for your needs. Here also Houghton excels, as a result of a seven-year development program which has brought to industry a series of synthetic detergents, in flake or liquid form, that can't be beat for scouring operations.

To see this demonstration now, write E. F. Houghton & Co., 303 W. Lehigh Ave., Phila. 33 or 825 W. Morehead St., Charlotte 6.

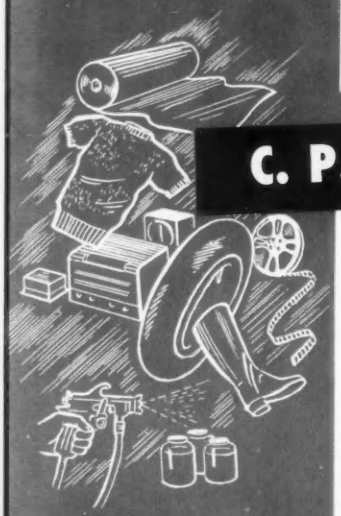
For the best money value . . . use

HOUGHTON'S SURFACE ACTIVE AGENTS



HEYDEN FORMALDEHYDE

C. P. Quality in Tank Car Quantities



Purity of raw materials—whether in laboratory or plant—is the surest way to high quality products. Heyden Formaldehyde has for years been recognized as a standard of highest purity and uniformity in the manufacture of many diversified products—urea resins and textile chemicals—protective coatings and embalming fluids. Wherever C.P. quality may make the difference between "excellent" and just "satisfactory," Heyden Formaldehyde is the logical choice.

In tank cars or in bottles, Heyden Formaldehyde is a clear, colorless solution free of impurities which might cause residual foreign odor or discoloration. Produced under rigid laboratory control from C.P. raw materials, it assures uniform yields and high quality. Available as Formaldehyde Solution U.S.P. or as Methanol-free Formaldehyde, it assays not less than 37% by weight.

Shipped in tank cars, tank trucks, drums, carboys and bottles.

FORMALDEHYDE • PARAFORMALDEHYDE
HEXAMETHYLENETETRAMINE

Technical bulletins on the use and handling of Formaldehyde and its derivatives will be mailed promptly upon request on company letterhead.

Serving Industry through Finer Chemicals

HEYDEN CHEMICAL CORPORATION
393 SEVENTH AVENUE · NEW YORK 1, N. Y.

FINE HEYDEN CHEMICALS

Benzaldehyde · Benzoates · Benzoic Acid · Benzyl Chloride · Bromides
Chlorinated Aromatics · Chlorobenzenes · Creosotes · Formates
Formaldehyde · Formic Acid · Glycerophosphates · Guaiacols
Hexamethylenetetramine · M. D. A. (Methylene Disalicylic Acid)
Paraformaldehyde · Parahydroxybenzoates · Penicillin
Pentaerythritols · Salicylates · Salicylic Acid · Streptomycin

CHICAGO 6: 20 North Wacker Drive • PHILADELPHIA 3: 1700 Walnut St. • SAN FRANCISCO 11: 420 Market St. • RUMFORD DIVISION: Rumford 16, R. I.

Dyestuffs & Chemicals

DYESTUFFS

for

TEXTILE DYEING
AND PRINTING

•

PAPER and LEATHER

•

ACID • DIRECT • BASIC • SULFUR
CHROME • DEVELOPED • ACETATE
AZOIC AND VAT COLORS
SOLUBLE VAT COLORS • NOVAGENS
NOVACELS

•

Selling Agents for

METRO DYESTUFF CORPORATION
PLANT: WEST WARWICK, RHODE ISLAND

•

NOVA CHEMICAL CORPORATION

147-153 WAVERLY PLACE **NEW YORK 14, N. Y.**
WAREHOUSES IN NEW YORK, CHARLOTTE, N. C. AND GREENVILLE, S. C.

For Your AZO DYES

Here's how to remember *The Secret of Quality*

SOLVAY
TRADE MARK REG. U.S. PAT. OFF.
SODIUM NITRITE
U. S. P.

Use Solvay for Purity

SOLVAY SALES DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

BRANCH SALES OFFICES:
Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
Houston • New Orleans • New York • Philadelphia • Pittsburgh
St. Louis • Syracuse

VAN VLAANDEREN *has a superior* NYLON HEAT SETTING MACHINE

It's different! It's better!

Everyone agrees today that heat setting of nylon broadgoods is essential to bring out its inherent advantages as a fabric.

Van Vlaanderen engineers—always pioneers in superior processing developments—have approached the problem of heat setting in an entirely new and better way. They have produced the first heat setting machine designed to give complete uniformity of treatment; the first machine designed on the advanced principle of *circulated heated air as the setting agent.*

***Circulated heated air*, permeating every fibre of the goods, uniformly and simultaneously effects setting — without any part of the machine or goods *ever* exceeding the setting temperature. This method results in better set fabrics; stable in dimensions, free from sagging, shrinking or stretching, and having great resistance to wrinkling.**

Circulated heated air* permits simpler design and easier, more reliable control; less possibility of mechanical failure and (of great interest to the finisher) *lower initial and operating costs.

***Circulated heated air* is, in our considered opinion, the most satisfactory of the various methods of heat treatment.**

We would like you to see this machine in operation. Why not write us now?

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey · Cable address: Vlaanderen, Patersonnj, U.S.A.

World's largest manufacturer of machines for processing modern fabrics

CHEMICALS
O·M·B
INC.
DYES

DYESTUFF MANUFACTURERS

Vat Dyes

Mayvat Olive AR
Mayvat Brown BR
Mayvat Jade Green

Fast Color Salts
Fast Color Bases

Naphthols
AS-TR and AS-G

Since 1917

OTTO B. MAY, INC.

Home Office and Works
198-214 Niagara Street
Newark 5, N. J.

DYER S. MOSS, So. Representative
1302 Liberty Life Building
Charlotte 2, North Carolina

NAPHTHOLS

- Hiltonaphthol AS-D
- Hiltonaphthol AS-SW
- Hiltonaphthol AS-OL
- Hiltonaphthol AS-BO
- Hiltonaphthol AS-BS
- Hiltonaphthol AS
- Hiltonaphthol AS-RL
- Hiltonaphthol AS-E
- Hiltonaphthol AS-BG
- Hiltonaphthol AS-PH
- Hiltonaphthol AS-ITR

FAST

- Hiltonil Fast Scarlet RC Base
- Hiltonil Fast Red B Base
- Hiltonil Fast Red GL Base
- Hiltonil Fast Bordeaux GP Base
- Hiltonil Fast Garnet GBC Base
- Hiltonil Fast Red KB Base

THE HILTON-DAVIS CHEMICAL CO. DIV.

7235 LANGDON FARM ROAD CINCINNATI 12, OHIO

Southern Representatives—THE BLACKMAN-UHLER CO., Spartanburg, S. C.

FAST COLOR SALTS

- Hiltosal Fast Scarlet R Salt
- Hiltosal Fast Red B Salt
- Hiltosal Fast Bordeaux GP Salt
- Hilfosal Fast Blue B Salt
- Hiltosal Fast Orange GC Salt
- Hiltosal Fast Yellow GC Salt
- Hiltosal Fast Red RC Salt
- Hiltosal Fast Scarlet 2G Salt
- Hiltosal Fast Orange GR Salt
- Hiltosal Fast Red 3GL Salt
- Hiltosal Fast Red GL Salt

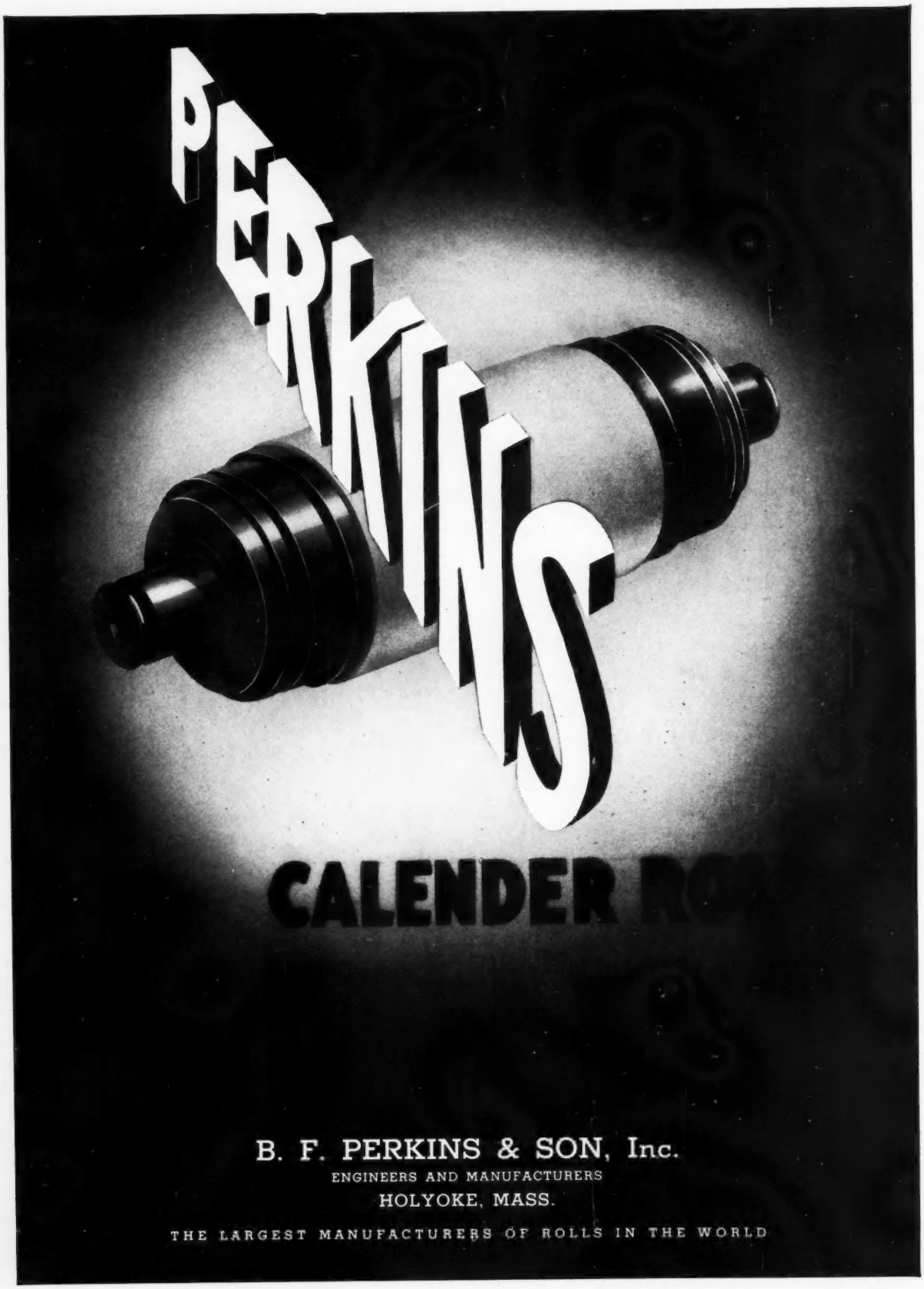
BASES

- Hiltonil Fast Red ITR Base
- Hiltonil Fast Scarlet R Base
- Hiltonil Fast Scarlet G Base
- Hiltonil Fast Orange GC Base
- Hiltonil Fast Yellow GC Base
- Hiltonil Fast Blue B Base

-THE HILTON-DAVIS CHEMICAL CO. DIV.

2235 LANGDON FARM ROAD CINCINNATI 12, OHIO

Southern Representatives—THE BLACKMAN UHLER CO., Spartanburg, S. C.


PERKINS
CALENDER
B. F. PERKINS & SON, Inc.
ENGINEERS AND MANUFACTURERS
HOLYOKE, MASS.
THE LARGEST MANUFACTURERS OF ROLLS IN THE WORLD

ONYX RESINS for TEXTILES

DATA FOR FILING **OCTOBER, 1949**

GENERAL DATA

Synthetic resins have established wide fields of use in the finishing of textiles.

Onyx supplies a number of special synthetic resins for textile finishing, with well established applications. All Onyx Resins and Xyno Resins, however, have potential uses which deserve exploration along the lines of stiffening, wear resistance, crush resistance, springiness, etc. This data sheet summarizes the various resins of the Onyx line together with information as to their properties and uses.

Condensation Polymers

Onyx Resins . . . NCF Paste and Liquid Resin SS, urea-formaldehyde resins . . . are supplied in a semi-polymerized state, the former requiring the addition of a catalyst and heat to complete polymerization. In practice, polymerization is effected, not only on the surface of the fabric, but throughout its fibers as well. Resin particles are sufficiently small to allow rapid and efficient penetration into the fibers themselves. They polymerize in the fabric to form rigid, three-dimensional resin molecules.

Linear Addition Polymers

Xyno Resins are water dispersions of linear addition resins. They result from the end-to-end joining of hundreds, or perhaps thousands, of smaller molecules to form very long, flexible ones of high molecular weight. Xyno Resin dispersions AA40, S69, 362, Xyno Resin solutions 497 and 497S, are supplied in a fully polymerized state, applied directly to the fiber and requiring no catalysts or heating or curing. Xyno Resins find their largest uses in the treatment of fabric surfaces where deep penetration is not an essential factor

Onyx Resins

Crush Resistance

Onyx NCF Paste finds its major application in the imparting of crush resistance to cotton and rayon fabrics and rayon blends. Impregnation of spun rayon with some protein finishes and NCF Paste produces a wide range of springiness besides considerably reducing shrinkage.

The resin is applied in a semi-polymerized form together with Onyx Catalyst AL which effects complete polymerization to a urea-formaldehyde resin. Actual treatment of fabrics with NCF Paste together with catalyst may be carried out in the mangle or pad, followed by drying in the dry box. Curing for 3-5 minutes at 310-325° F. immediately precedes washing.

See Onyx Technical Data Sheet No. 8-T for complete details.

Modifying Chintz Effects, Stiffening

Onyx Liquid Resin SS, another urea-formaldehyde resin of the condensation polymer class, has excellent stiffening characteristics, and imparts chintz effects. It is used either alone or most effectively in combination with NCF Paste or Xyno Resin AA40.

Onyx Technical Data Sheet No. 20-T describes Onyx Liquid Resin SS in complete detail.

Xyno Resins

General Purpose Finish

Xyno Resin AA40 is a water-thin dispersion of moderate particle size. It is an excellent general purpose finish for cotton and rayon fabrics. Its stiffening effects on ribbons and dress piece goods are especially satisfactory.

Xyno Resin AA40 requires no curing or heat treatment. It is applied at room temperature, alone or in combination with Onyx Liquid Resin SS or Onyx NCF Paste. Added springiness, crispness and improved durability during laundering may be obtained by the latter method. See Onyx Technical Data Sheet No. 14-T for further details.

Ninons, Marquisettes, Organdies

Xyno Resin 362, a vinyl resin dispersion of large particle size, provides the stiffest hand of the Xyno Resin dispersions. Used in combination with such Onyx softeners as Stearo Glyceryl Sulfate and Mapromol HSY, it has proved highly successful in the treatment of ninons, marquisettes and organdies. Xyno Resin 362 also imparts a wide range of stiffness to cotton, rayon, acetate and nylon fabrics. The resin has greater penetrability than starch, and due to its relatively low viscosity, does not require elevated temperatures during application. See Onyx Technical Data Sheet No. 19-T for complete details.

Wear Resistance

Xyno Resin S69 offers the best wash resistance of all the Xyno Resin dispersions. It is a dispersion of a thermoplastic copolymer that increases wear resistance and gives a wide range of sizing, stiffening and impregnating effects on all common fabrics. Through its use, a noticeable decrease in slippage, and a definite dulling effect on acetate are obtained. Onyx Technical Data Sheet No. 18-T describes S69 in more complete detail.

Resin Solutions

First of a series of Xyno Resin solutions are Xyno Resins 497 and 497S, the ammonium salt and sodium salt, respectively, of a thermoplastic polymer. The outstanding property of Xyno Resin solutions is their complete water solubility and consequent easy application to all fabrics. They offer interesting possibilities for stiffening and imparting body to textiles.

onyx CHEMICALS FOR DYEING · FINISHING · PRINTING

ONYX OIL & CHEMICAL COMPANY

JERSEY CITY 2, N. J.

CHICAGO · PROVIDENCE · CHARLOTTE · ATLANTA

In Canada: Onyx Oil & Chemical Co., Ltd. Montreal, Toronto, St. Johns, Que.

For Export: Onyx International Jersey City 2, N. J.

COMMONWEALTH COLOR & CHEMICAL CO.

More than forty years' experience in the manufacture of Dyestuffs, Converted Starches, Waterproofing Agents, Sulphonated Oils, Finishing Compounds, Penetrators, Detergents, Bleaching Agents, Sizing Materials, and other Chemical Specialties for the Textile and Allied Trades...

Main Office and Works:

3240 GRACE AVENUE • NEW YORK 67, N. Y.

Branches: PHILADELPHIA • CHICAGO • GLOVERSVILLE • MONTREAL

how to —

save 4 hours

preparing vat pastes

Photo courtesy of AMERICAN VISCOSE CO.

Elapsed time? One-half hour instead of 4 to 5 hours required by cook-up thickeners!

How?

By eliminating cooking and cooling. Simply blend vat chemicals and tap water with AMBERTEX M. That's all. Your printing thickener is ready to use.

You save time . . . labor . . . expensive cooking equipment.

AMBERTEX M is another example of the *service* National research builds into textile starch specialties: Expense saving ease-of-preparation, in addition to excellent printing qualities.

AMBERTEX M is especially recommended for white discharge, rapidogen and vat colors. Clean, high speed printing . . . excellent penetration . . . smooth uniform blotches . . . washes out easily and thoroughly. Color yield? Up to 20% higher! AMBERTEX M deposits a soft, pliable film that minimizes splitting on Bemberg sheers and similar materials.

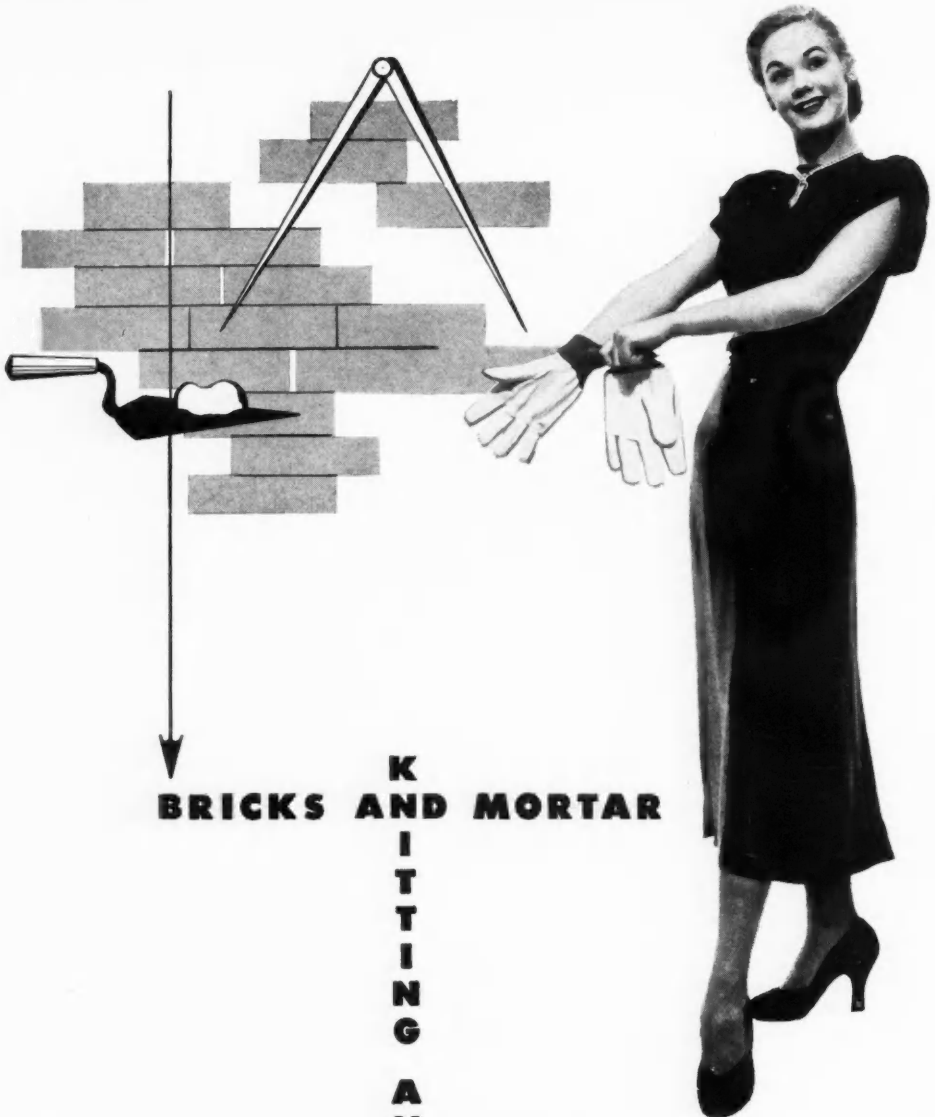
National also produces: CLEARFILM for sheer, lustrous finishes; FLOTEX to replace natural gums for printing; TABLE ADHESIVE for screen printing; FLOCK ADHESIVE 970 for chenille flock printing; HOOSIER PEARL CORN STARCH . . . THIN BOILING CORN STARCH . . . CHLORINATED CORN STARCH . . . and DEXTRINES

Address: 270 Madison Ave., New York 16; Boston, Philadelphia, Atlanta, Indianapolis, Chicago, San Francisco, and other principal cities. *In Canada:* National Adhesives (Canada) Ltd., Toronto and Montreal.

National
STARCH PRODUCTS

ambertex-m

ELIMINATES COOKING AND COOLING



BRICKS AND MORTAR

KNITTING AND FINISH

Building A Wall Or Making A Stocking

. . . the finished product requires two elements. The more easily they combine, the better the end result. Fanco finishes protectively seal in the beauty of fine knitting . . . add lasting loveliness and clear dullness to each stitch. Ask your Fanco fieldman to show you how effectively Fanco finishes can become a part of your product.

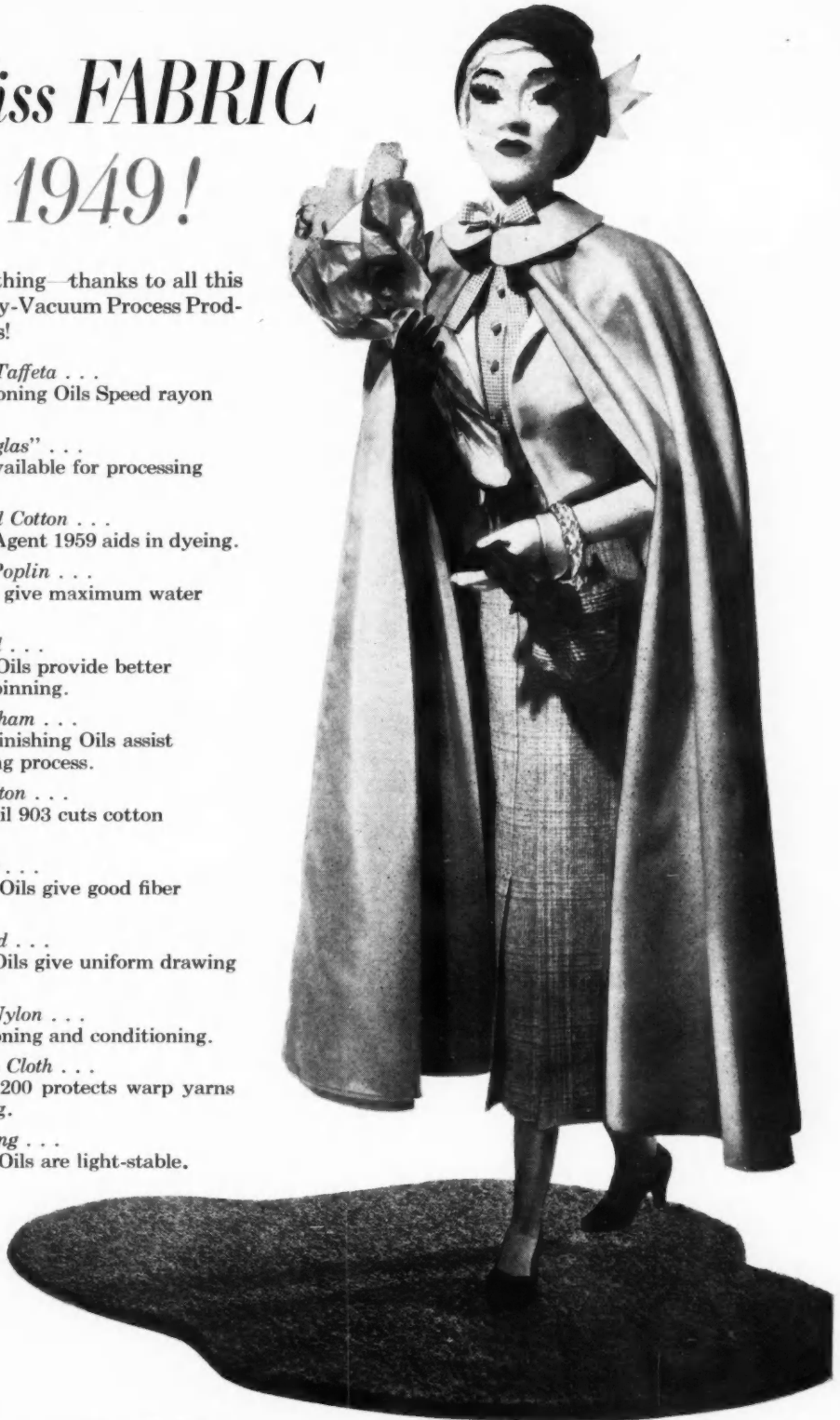
W. F. FANCOURT CO.

Philadelphia, Pa.

In the South, Howard A. Virkler, Greensboro, N. C.

SOLVING FINISHING PROBLEMS SINCE 1904

Meet Miss FABRIC for 1949!



She's got everything—thanks to all this help from Socony-Vacuum Process Products for Textiles!

HAT . . . *Rayon Taffeta* . . .
S/V Rayon Coning Oils Speed rayon processing.

HAIR . . . *"Fiberglas"* . . .
Special Oils available for processing "Fiberglas."

FACE . . . *Knitted Cotton* . . .
S/V Wetting Agent 1959 aids in dyeing.

RAIN CAPE . . . *Poplin* . . .
S/V Fabrisecs give maximum water repellency.

JACKET . . . *Wool* . . .
S/V Woolrex Oils provide better carding and spinning.

BLOUSE . . . *Gingham* . . .
S/V Textile Finishing Oils assist in pre-shrinking process.

FLOWERS . . . *Cotton* . . .
S/V Process Oil 903 cuts cotton fly loss.

BAG . . . *Cordage* . . .
S/V Batching Oils give good fiber lubrication.

SKIRT . . . *Worsted* . . .
S/V Worstex Oils give uniform drawing and gilling.

STOCKINGS . . . *Nylon* . . .
S/V Oils for coning and conditioning.

SHOES . . . *Cotton Cloth* . . .
S/V Weavrex 200 protects warp yarns during weaving.

BASE . . . *Carpeting* . . .
S/V Carpetex Oils are light-stable.

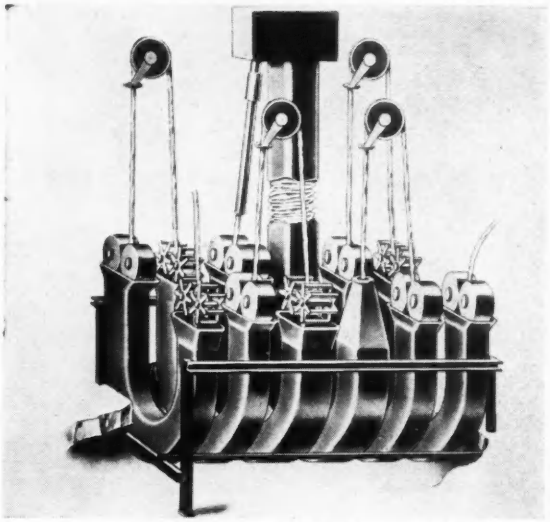
Process Products
SOCONY-VACUUM

Socony-Vacuum Process Products

SOCONY-VACUUM OIL CO., INC., 26 Broadway, New York 4, N. Y., and Affiliates: MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

Now!

Continuous low-cost, quality bleaching



Courtesy: H. W. Butterworth & Sons Company, Philadelphia, Pa.

Butterworth "Junior" Bleaching unit, single stage system, showing Squeezer, "U"-type Washers, Saturator and J-Box. Note compact size of the bleaching unit and stainless steel construction. Two-stage units are also available.

for the smaller plant . . . specialty bleaching in larger plants

New "Junior" Unit Designed Around Principles of DU PONT CONTINUOUS PEROXIDE BLEACH

With the new Butterworth "Junior" Unit, all the advantages of continuous bleaching are now available to the smaller finishing plant. This new unit is ideal for use where production does not warrant a full-sized continuous bleaching range. And it's a most useful auxiliary unit for specialty work in larger mills which have standard units. Extremely compact, the single-stage bleaching unit was developed around the outstanding principles featured in Du Pont Continuous Peroxide Bleaching.

Only 13 feet long, 16 feet wide, and 25 feet maximum overall height, the "Junior" permits low-cost continuous bleaching of knit goods or cotton piece goods in a fraction of the floor space formerly required. And it is functional and efficient . . . handles cloth at an average rate of 50 yards per minute.

The new Unit is a complete operating job fully equipped with Squeezer, Washer, Saturator, J-Box, reels, motors, instruments and auxiliary equipment. The specially designed J-Box handles 300 to 600 lbs. of cloth per hour, gently and efficiently, with tension control devices.

With this new unit, it's possible to get high-quality bleaching, continuously and economically. What's more, only one man is needed to operate the unit.

For more information on this new development, and on Du Pont Continuous Peroxide Bleach, send the coupon below.

DU PONT
CONTINUOUS PEROXIDE BLEACHING

DU PONT

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems.

Name_____ Title_____

Firm_____

Street & No._____

City_____ State_____

SEVEN REASONS WHY
ALKAMERCE
is the ideal Mercerizing Penetrant

1 ALKAMERCE may be dissolved directly in the mercerizing caustic.

2 ALKAMERCE does not lose its wetting power on standing.

3 ALKAMERCE does not form a scum in the caustic.

4 ALKAMERCE is easily washed out of the goods.

5 ALKAMERCE has a low solvent effect on cotton waxes and pectins.

6 ALKAMERCE will not foam or cause sludge formation in caustic recovery systems.

7 ALKAMERCE has a low exhaustion rate, i.e., it is only slightly absorbed by the cotton, thereby permitting larger quantities of cotton to be treated before further additions of penetrant are necessary.

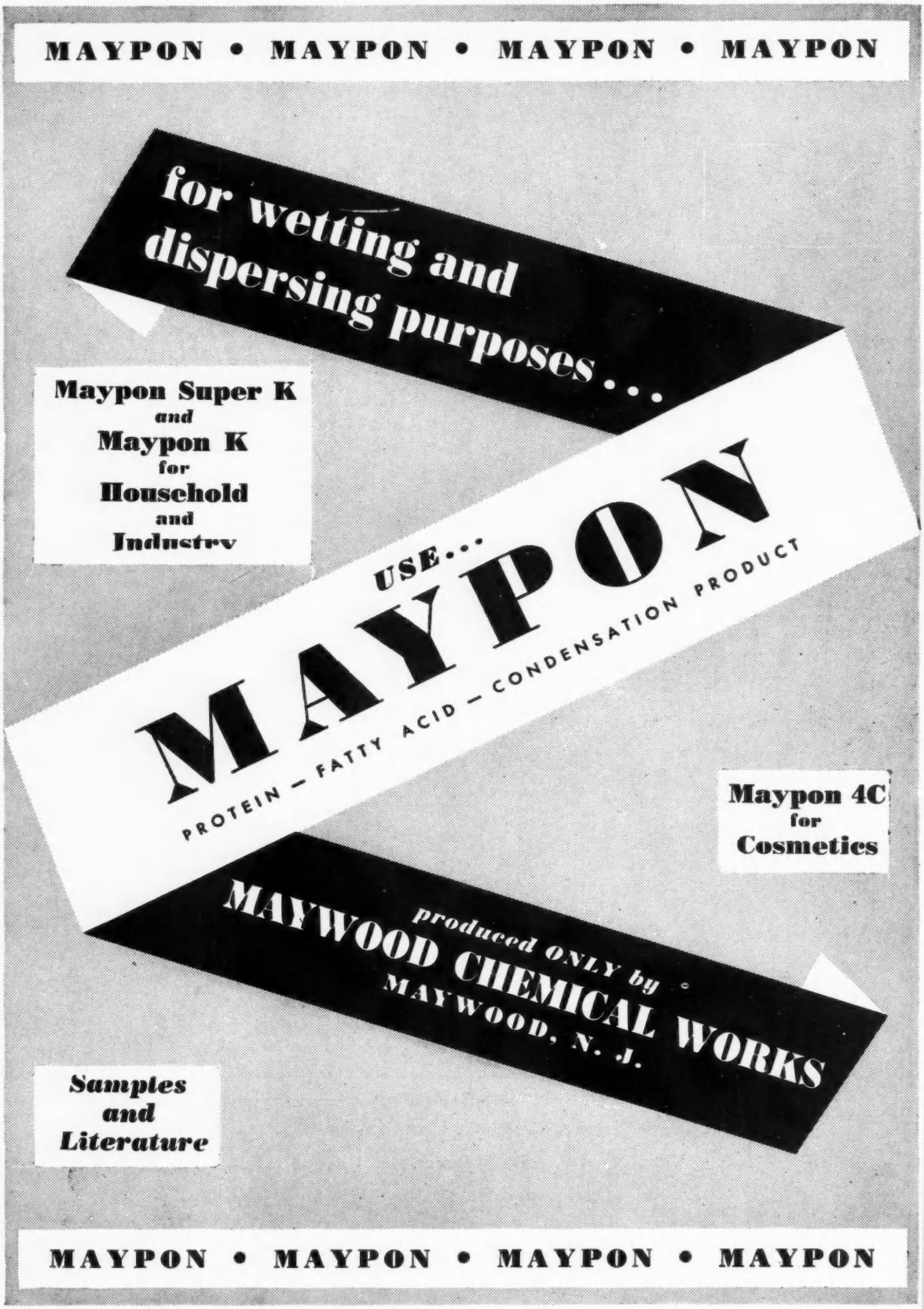
Hartex Products

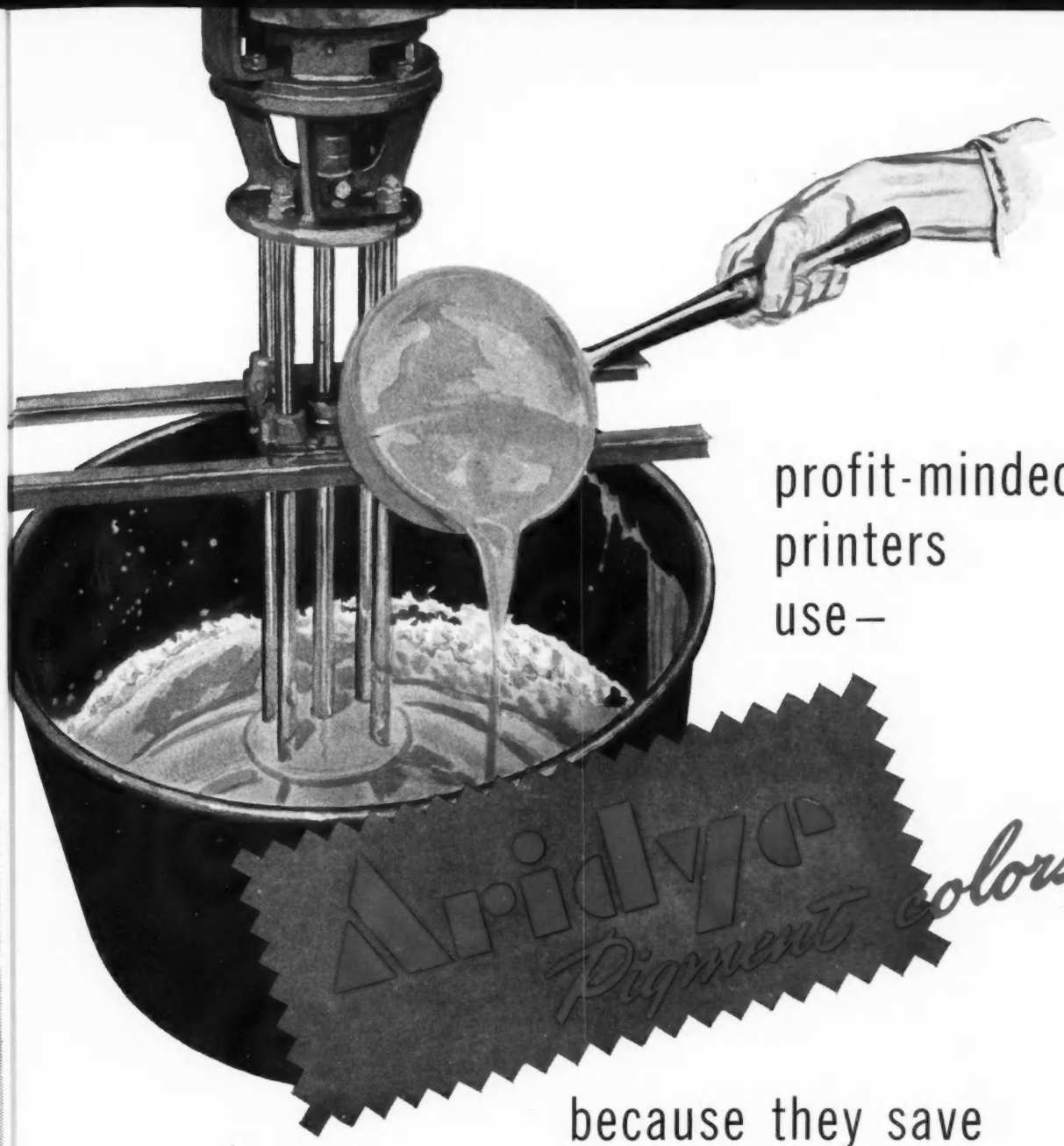
Rayon Oils & Sizes
Nylon Oils & Sizes
Kier Bleaching Oils
Finishing Oils
Synthetic Detergents

Conditioning Agents
Scrooping Agents
Splashproof Compounds
Delustrants
Leveling Agents
Cationic Softeners
Cotton Warp Dressings
Wetting-Out Agents
Weighting Agents
Mercerizing Penetrants

Send for your copy of booklet "Mercerizing and ALKAMERCE — The Ideal Dry Mercerizing Penetrant."

THE HART PRODUCTS CORP.
1440 Broadway, New York 18, N. Y.


MAYPON • MAYPON • MAYPON • MAYPON
for wetting and dispersing purposes . . .
Maypon Super K
and
Maypon K
for
Household
and
Industry
USE . . .
MAYPON
PROTEIN — FATTY ACID — CONDENSATION PRODUCT
Maypon 4C
for
Cosmetics
produced ONLY by
MAYWOOD CHEMICAL WORKS
MAYWOOD, N. J.
Samples
and
Literature
MAYPON • MAYPON • MAYPON • MAYPON



profit-minded
printers
use—

Aridye Pigment colors

because they save
6 Ways

1 SAVES on color costs.

2 SAVES on roller reverses, pitching of patterns, and file-ups.

3 SAVES on after treatments.

4 SAVES on wastage of left-over colors.

5 SAVES on finishing.

6 SAVES ON COSTLY SECONDS!

Cut your costs with

ARIDYE PIGMENT COLORS

for details, phone or write:

INTERCHEMICAL CORPORATION
TEXTILE COLORS DIVISION
Fair Lawn, N.J. • Rock Hill, S.C. • Pawtucket, R.I.

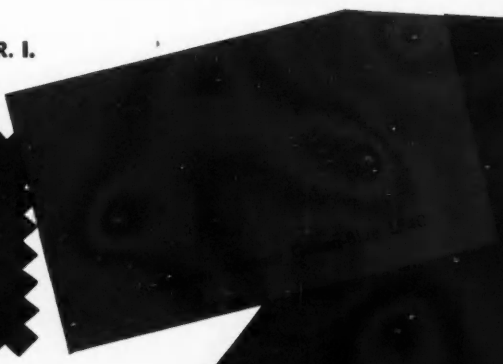
Now... with the addition of the LF40 series to the line of Interchem Acetate Dyes

You can dye acetate rayons in LIGHT FAST SHADES FROM PASTELS TO BLACKS

USE THESE RICH INTERCHEM DYES FOR TOP RESULTS IN DYEING LIGHTFAST FABRICS FOR men's wear, sportswear, beachwear, and *high quality* women's wear.

WANT SATISFIED CUSTOMERS?

. . . then get all the details on fastness and dyeing properties of the Interchem LF40 Series.



Write or Phone:

INTERCHEMICAL CORPORATION

Textile Colors Division, Dyestuff Dept.

Fair Lawn, N. J. · Rock Hill, S. C. · Pawtucket, R. I.

Interchem TRADE MARK *Dyes*

CELANESE* ACETIC ACID

OVERNIGHT DELIVERY BY TANK TRUCK

to all points in Southern Textile Areas

A new, up-to-the-minute service for the textile industry is now in operation with the completion of terminal facilities at Rock Hill, South Carolina. From this storage point, textile plants in the southern area can obtain overnight deliveries of the highest quality acetic acid—in tank truck quantities.

This southeastern source for acetic acid will give Celanese customers the benefits of bulk prices and the efficiency of less-than-tank-car shipments.

GLACIAL ACETIC ACID U. S. P.

Acetic Acid Content	99.5% by weight, minimum purity
Water Content	0.5% by weight, maximum
Freezing Point	15.6°C, minimum
Specific Gravity	1.050 to 1.055 @ 20/20° C.
Color	Water White
Formic Acid Content	0.05% by weight, maximum
Non-Volatile Matter	0.001% by weight, maximum
Iron Content	1.0 PPM by weight, maximum
Permanganate Time	2 hrs. min.

Also lower concentrations to 80%

CELANESE CORPORATION OF AMERICA
Chemical Division, Dept. 48-J
180 Madison Avenue, New York 16, N.Y.

Celanese* CHEMICALS

*Reg. U.S. Pat. Off.

ALCOHOLS · ALDEHYDES · GLYCOLS · KETONES · ACIDS · SOLVENTS · PLASTICIZERS · INTERMEDIATES

ZINSSER

ESTABLISHED 1897

MANUFACTURERS OF

DYESTUFFS

ANILINE • ALIZARINE • CHROME and ACETATE
FINE ORGANIC PIGMENTS FOR PRINTING

★

PHOTOGRAPHIC CHEMICALS

HYDROQUINONE • METOL • PYROGALLIC ACID

★

FINE CHEMICALS

TANNIC ACID • GALLIC ACID

(U. S. P. AND TECHNICAL GRADES)

★

ZINSSER & COMPANY, Inc.

MANUFACTURING CHEMISTS

HASTING-ON-HUDSON, NEW YORK

Exclusive Sales Agents for Pacific Coast:

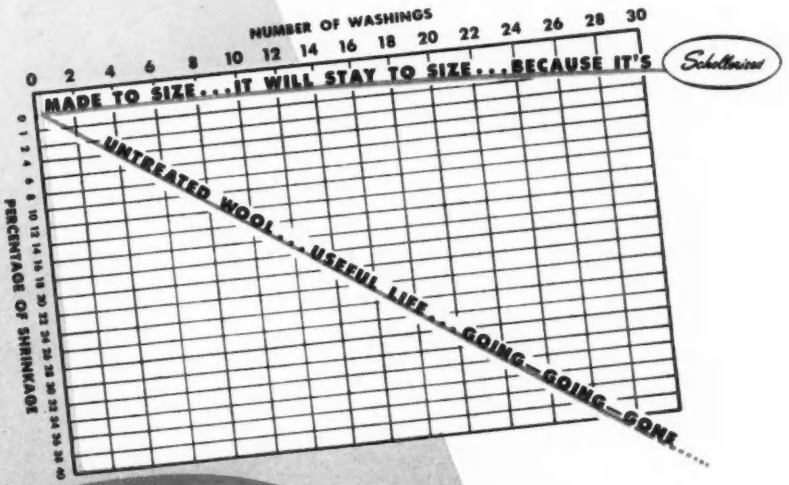
BRAUN-KNECHT-HEIMANN CO., San Francisco, Cal. • BRAUN CORPORATION, Los Angeles, Cal.

LIFE ASSURANCE

for your wool product!

HERE'S A GRAPHIC "LIFE HISTORY" THAT TELLS A VITAL STORY...

Because SCHOLLERIZING is so *practical* — so consistently *uniform* in results . . . so comparatively *simple to apply*, more and more alert wool-products manufacturers are deciding upon the Scholler process for wool shrinkage control!


NUMBER OF WASHINGS
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
MADE TO SIZE...IT WILL STAY TO SIZE...BECAUSE IT'S Schollerized
PERCENTAGE OF SHRINKAGE
UNTREATED WOOL...USEFUL LIFE...GOING—GOING—GONE.....

No elaborate, costly or specialized mechanization set-ups are required for application of the Scholler Wool-Shrinkage Control Process.* The simplicity is amazing. Once inaugurated in a plant, no greater labor skill than is now already available, is necessary. No critical point is reached during application of the process that might cause damage to the fibre or affect the efficiency of shrinkage control.

*U.S. & Foreign Patents Pending

Visit Booth #39 at the AATCC Convention, Atlantic City, October 13th-15th.

made to size...it will stay to size...because it's

Schollerized
WASHABLE WOOL
SAFE TO TUB • SAFE TO RUB

Write Today For Full Details On The Amazing Scholler Wool Shrinkage-Control Process applied to YOUR product!

SCHOLLER BROTHERS, INC.

Manufacturers of Scouring, Dyeing and Finishing Materials

COLLINS at WESTMORELAND, PHILADELPHIA 34, PA.

IN CANADA: SCHOLLER BROTHERS, LTD., ST. CATHARINES, ONTARIO

SERVING THE TEXTILE INDUSTRY FOR MORE THAN FORTY YEARS

Synthrez D
nothing
finer
for
crush
resistance
and
dimensional
stability
Synthron, Inc.
Manufacturing Chemists
ASHTON • RHODE ISLAND
*MANUFACTURERS OF THE SYNTHOLITES
RESINS — WETTING AGENTS — SYNTHETIC DETERGENTS
REPELLENTS — SOAPS

NAPHTHOLS

Pfister Chemical Works INC.

RIDGEFIELD NEW JERSEY

PEnnsylvania 6-4891
MOrsemere 6-5400

SOUTHERN REPRESENTATIVE — DYER S. MOSS COMPANY, CHARLOTTE, N. C.

NYANZA

ANILINE & ALIZARINE COLORS

•

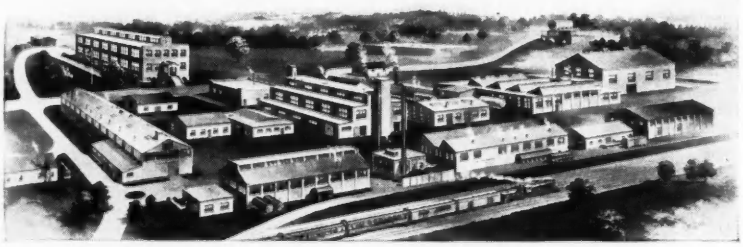
TEXTILE CHEMICALS

•

FINISHING MATERIALS

FOR

WOOL — COTTON — RAYON — ACETATE
AND MIXED FIBERS



FACTORY AT ASHLAND, MASSACHUSETTS

NYANZA COLOR & CHEMICAL COMPANY, Inc.

109 WORTH STREET NEW YORK 13, N. Y.

FACTORIES:

CHEMICAL MANUFACTURING CO., ASHLAND, MASS. • NEW BRUNSWICK CHEMICAL CO., NEWARK, N. J.

BRANCHES:

ASHLAND, MASSACHUSETTS

549 West Randolph St., Chicago, Ill. • 675 Drexel Bldg., Philadelphia, Pa. • 115 S.W. Fourth Ave., Portland, Ore.

304 E. Morehead St., Charlotte, N. C.

CANADIAN AGENTS:

Charles Albert Smith Limited, 123 Liberty St., Toronto, Canada

KELTEX EXCELS

FOR DRAPERY GOODS

printed with rapidogens, indigosols and fast-to-light direct colors . . . on cotton, viscose and cupra rayon

● Exact and unvarying printing paste viscosity . . . sharp clean printing . . . maximum color penetration and true, even color yield — these are the advantages you get when you use Keltex, the modern algin thickening agent.

Keltex gives equally successful results when used on cotton, viscose and cupra rayon drapery materials . . . with rapidogens, indigosols and fast-to-light direct colors.

With Keltex you eliminate the need for straining or filtering because Keltex is entirely free of grit or other foreign matter. Readily soluble in cold water, it requires no cooking or special handling, and is easily washed out after printing has been completed.

Our Technical Service Department is prepared to cooperate with you fully in adapting Keltex to your particular requirements. Write or call our nearest regional office.

KELTEX... A PRODUCT OF

KELCO COMPANY

KELTEX REFINED ALGIN PRODUCT

20 N. Wacker Drive
CHICAGO—6

31 Nassau Street
NEW YORK—5

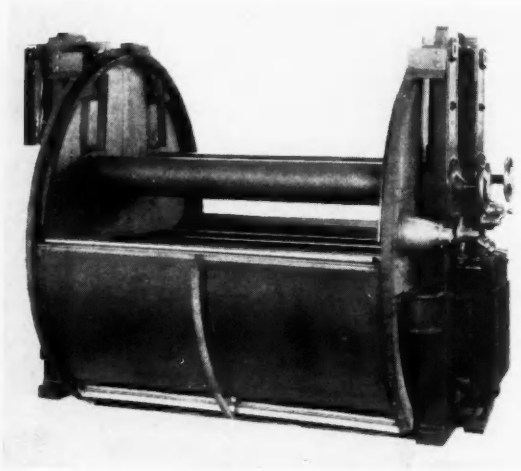
530 W. Sixth Street
LOS ANGELES—14

Cable Address: KELCOALGIN—New York

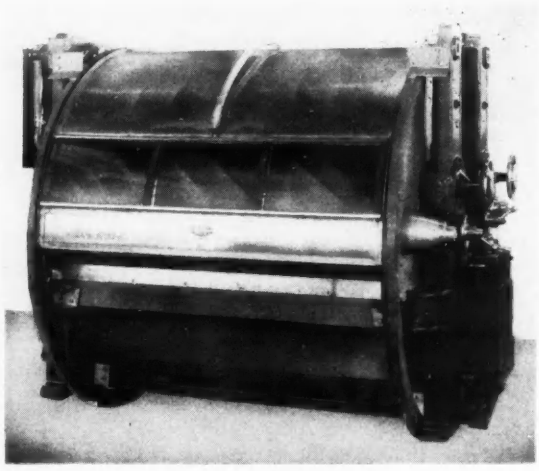
Triumph of Functional Designing

GLASCO
METAL INDUSTRIAL EQUIPMENT
PRODUCTS

CYLINDRICAL DYE JIG ENCLOSURE



(CUT OF OPEN POSITION)



(CUT OF CLOSED POSITION)

At the recent textile dyeing and finishing show the new Glasco Dye Jig Enclosure proved that it had eye appeal as well as solid merit.

"It's a well done job," "Everything accessible," "Like a new Packard compared to a Ford Model T," were some of the comments made by those who saw it.

More Practical Considerations Followed:

1 The way the close fitting hood saves space.

2 The way the shape minimizes dripping that might spoil goods.

3 The automatic steam vent that prevents steam blast when hood is opened.

4 The absence of cables, chains, pulleys, or counter-weight posts to obstruct jig operation.

5 The ease with which these enclosures can be fitted to any standard jig.

6 The way the sections of the enclosure swing down and under the jig when open.

7 The effortlessness of opening and closing the counter balanced section of the enclosure, which operates on roller bearings.

8 The big windows for observation when closed.

It is features like these that make this compact, efficient jig enclosure of interest to dyers, because its contributions to better, safer handling of delicate fabrics, and because the improvement of working conditions is great and immediate.

We will be glad to give you full information about these modern enclosures.

GLASCO EQUIPMENT CORP.

METAL EQUIPMENT FABRICATORS SINCE 1916

2 Wait Street **Paterson, N. J.**

Improved EMERY TWITCHELL OILS for Cotton Finishing

...Regular and Sanforized Fabrics

To provide oils to meet varying finishing requirements, Emery manufactures three Twitchell Products. All of them are extremely stable, offering maximum resistance to oxidation, yellowing and rancidity. Won't corrode machines or metal parts; cause no gumminess or tackiness. *Most important,* treated fabrics retain rewetting properties indefinitely.

For FAST Rewet

Twitchell Oil 7250. All fatty-base oil imparting highest speed of wet-back. Gives soft hand . . . minimizes shade changes . . . enhances bloominess and color values. Minimum volatility, no tendency to "fog."

For MEDIUM SOFT Hand

Twitchell Oil 7240. A fatty-mineral base oil for medium soft hand is an efficient rewetting agent. Compounded to keep "fog" to a minimum.

For MINIMUM effect on Hand

Twitchell Oil 7231. All mineral base. Best where good wetting back, minimum effect on hand and greatest economy is sought. Compounded to keep "fog" to a minimu.n.

For REGULAR Finishing

Each of these three oils is recommended for regular finishing, for slashing, for increasing absorbency of towelling, wiping rags, paper maker's felts, etc. Twitchell 7210, 7211 and 7230 provide still lower cost oils for all types of cotton finishing where lower-quality, less-efficient assistants are adequate.

Our Sales Service Department is ready to schedule plant trials at your convenience.

OTHER EMERY PRODUCTS FOR TEXTILE PROCESSING

EMERSOL ELAINES

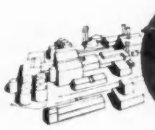
Current production of all Emery Oleic acids shows higher resistance to oxidation, better color stability, less tendency toward rancidity, greater odor stability, lowest unsaponifiable content of any commercial red oil.

EMERSOL STEARIC ACIDS

Manufactured to uniform quality standards . . . exceptional stability of odor and color (heat test) . . . unique qualities retained in most finished products.

ACIDS AND GLYCERIDES

Emery also manufactures: Animal, Cottonseed, Coconut, Soya Fatty Acids . . . Hydrogenated Acids and Glycerides.

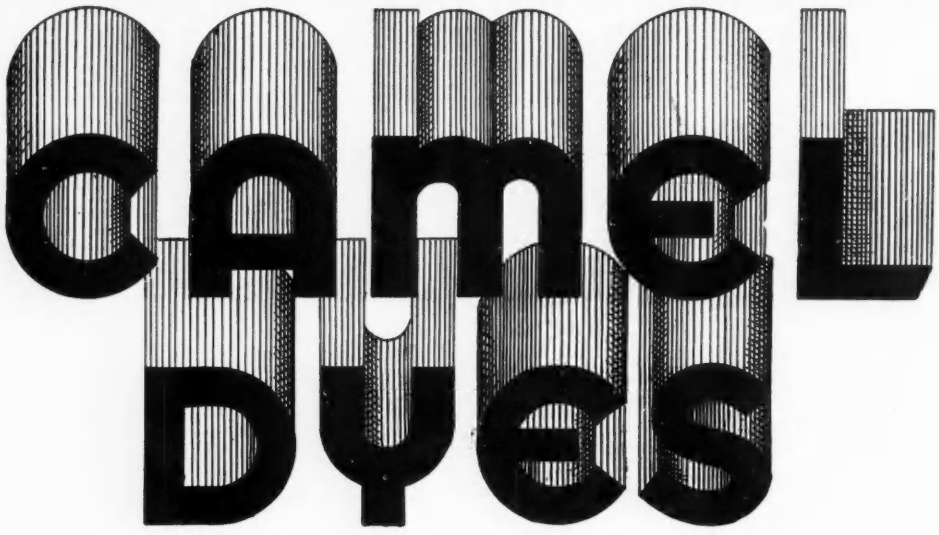


EMERY INDUSTRIES, INC.

4300 CAREW TOWER • CINCINNATI 2, OHIO

REPORT DEPT.: 5035 R.C.A. BLDG., NEW YORK 20, N. Y.

Branch Offices
3002 Woolworth Bldg., New York 7, N.Y.
187 Perry St., Lowell, Mass.
401 N. Broad St., Philadelphia 8, Pa.



You Are Cordially Invited to Visit
Our Booth Number
36
At the Twenty-Eighth National
Convention of the A. A. T. C. C.
in Atlantic City, October 13-14-15

PROMPT • EFFICIENT • ECONOMICAL SERVICE
TO MEET ALL DYESTUFF REQUIREMENTS

JOHN CAMPBELL & COMPANY, INC.

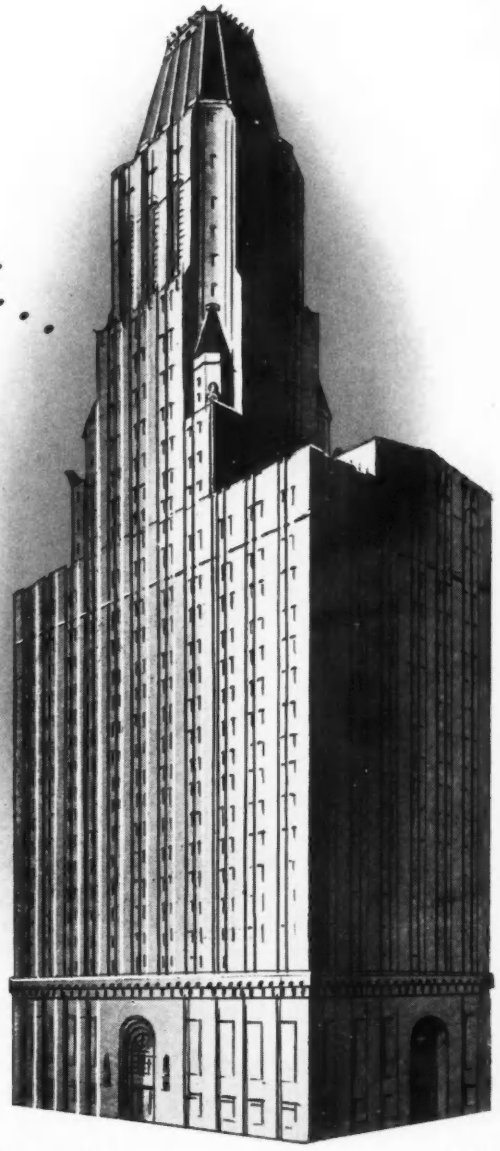
75 HUDSON STREET • NEW YORK CITY
TELEPHONE: BArclay 7-6228-6229
2520-22 NORTH BROAD STREET, PHILADELPHIA 32, PA. • TEL. RADCLIFFE 5-7103-4
BRANCH OFFICES AND WAREHOUSES:
BOSTON EAST CLEVELAND, OHIO ATLANTA, GA.

Mathieson

CHEMICALS

SERVING INDUSTRY, AGRICULTURE AND PUBLIC HEALTH

Mathieson's **BALTIMORE** *bound . . .*



This fall, Mathieson Chemical Corporation moves to its new executive offices in the 34-story Mathieson Building, Baltimore, Maryland.

In this new location, deep in the chemical heartland of America, we will continue to serve our customers quickly and efficiently.

Mathieson Chemical Corporation
MATHIESON BUILDING
BALTIMORE 3, MARYLAND

RALLY ROUND!

DON'T MISS THE BIG DOINGS at Booths 48 and 50, when you attend the American Association of Textile Chemists and Colorists Show . . . at Chalfonte-Haddon Hall, Atlantic City. That's October 13 to 15.

SEE: Interesting demonstrations of the uses and applications of two "Virginia" textile chemical products.

GET: A worth-while, personalized memento of this great occasion . . . a "Virginia" surprise feature which will highlight the Show for you.

Whether it's for ideas or amusement—we extend a cordial invitation to YOU to visit with us. Take away something you'll enjoy a long, long time . . . compliments of Virginia Smelting Company, West Norfolk, Virginia.

VIRGINIA Chemicals

WEST NORFOLK • NEW YORK • BOSTON • DETROIT

Planning to Attend?

28th National Convention

American Association of Textile Chemists and Colorists

Haddon Hall, Atlantic City, N. J.

October 13, 14, 15

We at Calco hope to see you there and extend a cordial invitation to visit our booths, Nos. 52 and 55.

AMERICAN Cyanamid COMPANY

CALCO CHEMICAL DIVISION

BOUND BROOK, NEW JERSEY

Calco

Calco Technical Bulletin No. 756

Spectrophotometry and the Colorist

By E. I. STEARNS

Research Department

Calco Technical Bulletin No. 808

Laboratory Study of Padding: Part I, Cotton

By G. L. ZIMMERMAN and G. L. ROYER

RESEARCH DEPARTMENT

CALCO CHEMICAL DIVISION, AMERICAN CYANAMID COMPANY

Bound Brook, N. J.

Calco Technical Bulletin No. 792

THE DYEOMETER:

n Instrument for Studying Color Reactions

Calco Technical Bulletin No. 809

UDIES ON WOOL DYEING:

ct of Metals on Tippy Dyeing

By HENRY E. MILLSON

AMERICAN CYANAMID COMPANY, CALCO CHEMICAL DIVISION

Bound Brook, N. J.

Calco Technical Bulletin No. 793

CONTINUOUS VAT DYEING

Part I

lection of Dyes for Continuous Pigment Pad Dyeing Processes

O. W. CLARK, Technical Sales Service Laboratory

Part II

Laboratory Apparatus for Studying Continuous Dyeing

C. L. ZIMMERMAN, Research Department

Calco

CALCO CHEMICAL DIVISION

AMERICAN CYANAMID COMPANY

Bound Brook, New Jersey

Calco Technical Bulletin No. 795

Studies on Rayon Dyeing: Applications of the Dyeometer

By G. L. ROYER, H. R. McCLEARY and J. H. A. de BRUYNE

Research Department, Calco Chemical Division

American Cyanamid Company

Calco

CALCO CHEMICAL DIVISION

Calco Technical Bulletin No. 807

DYEING STUDIES AT ELEVATED TEMPERATURES

By G. L. ROYER and C. L. ZIMMERMAN

CALCO RESEARCH DEPARTMENT AND

H. I. WALTER AND R. D. ROBINSON

BACHMANN UXBRIDGE WORSTED CORPORATION

Calco

AMERICAN Cyanamid COMPANY

CALCO CHEMICAL DIVISION

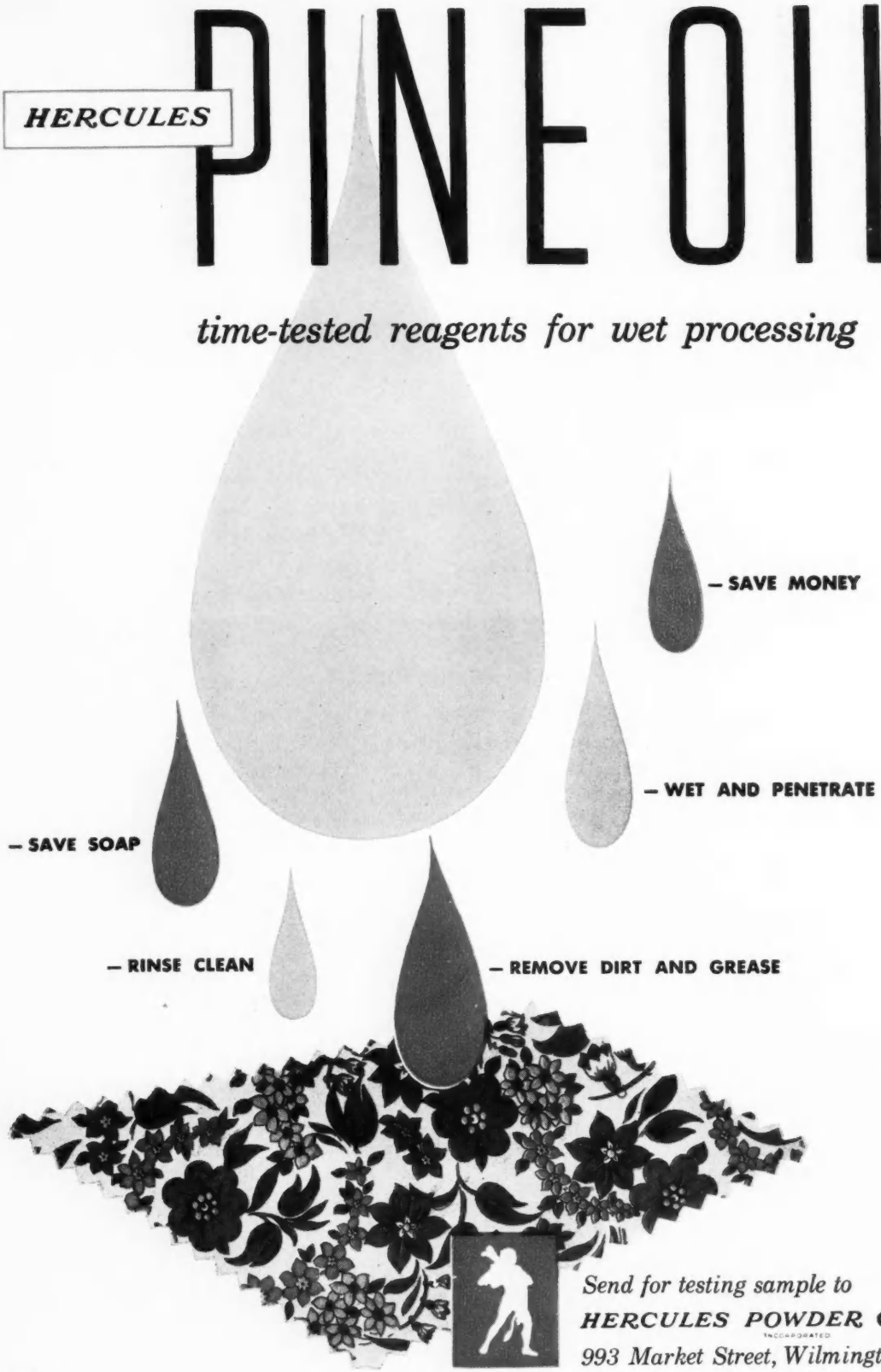
BOUND BROOK, NEW JERSEY

one quality... the highest

HERCULES

PINE OILS

time-tested reagents for wet processing



Send for testing sample to
HERCULES POWDER COMPANY
INCORPORATED
993 Market Street, Wilmington 99, Del.

NY9-1

A.A.T.C.C. CONVENTION ISSUE

AMERICAN

DYESTUFF REPORTER

Incorporating Textile Colorist and Converter

NORMAN A. JOHNSON, B.T.C.
Editor

CHARLES A. WHITEHEAD
Managing Editor

MYRON D. REESER
Advertising Manager

HERBERT A. STAUDERMAN
Advertising Representative

GRACE B. BURTON
Production Manager

M. H. MORGAN
Circulation Manager

Official Publication of the Proceedings of the American Association of Textile Chemists and Colorists.

•

Published every other Monday by the **HOWES PUBLISHING COMPANY, INC.**, One Madison Avenue, New York 10, N. Y. **C. R. Howes**, President; **Harry F. Crawford**, Executive Vice-President; **Norman A. Johnson**, Vice-President; **Ernest J. Finan**, Treasurer; **Myron D. Reeser**, Secretary; **C. Essenbreis**, Assistant Secretary.

•

Also Publishers of
HOSIERY INDUSTRY WEEKLY
HOSIERY MERCHANDISING

•

OCTOBER 3, 1949
VOLUME 38 NUMBER 20

Contents

Contents of previous issues can be found by consulting the Industrial Arts Index and the Engineering Index, Inc. at your library

• Special Articles

Solving Corrosion Problems in the Textile Industry. 735
Raymond B. Seymour and W. L. Worth, Jr.

• Departments

Patent Digest 738
Paul Wengraf
Trade Notes—New Products..... 739

• Proceedings of the American Association of Textile Chemists and Colorists

Greetings from Your President.....P695
Convention Program P696
Greetings from the Chairman, Philadelphia Section.P697
Greetings from the Convention Chairman.....P697
The 1949 Convention Theme.....P699
Photos of National Officers.....P699
Executive Committee on Research.....P700
A Report by the Convention Committee.....P701
Olney Medal to be Awarded to Charles A. Siebert.P702
Local Convention Committees.....P703
Intersectional Contest Committees.....P706
The Philadelphia Section.....P708
Exhibits at National Convention.....P711
Abstracts of Technical Papers.....P718
Abstracts of Intersectional Contest Papers.....P721
The Wet Processing Industry in the Philadelphia Area P725
Mid-West Section—
The Solubilization of Dyestuffs with Surface Active Agents P728
Calendar P732
South Central Section to Meet Nov. 19.....P733
Employment Register P733
Membership Applications P733

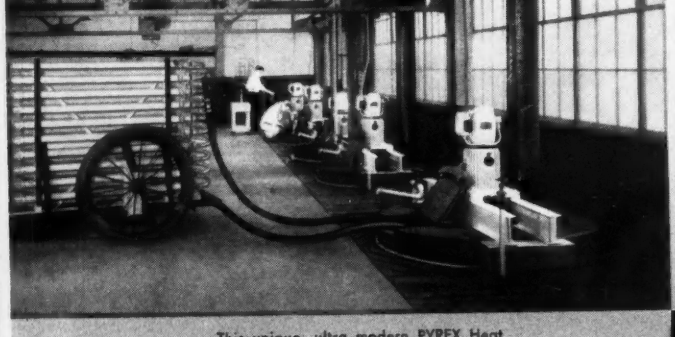
Copyright, 1949, Howes Publishing Co., Inc.

PYREX

eliminates the risk of contamination

Many metals contaminate the finest dyestuffs, causing spots on the finished fabric.

To *eliminate* this "risk", we've even gone so far as to build our own special apparatus of PYREX GLASS, such as the illustrated Heat Exchanger to replace ordinary metal equipment.



This unique, ultra modern PYREX Heat Exchanger is a portable piece of equipment through which is pumped the fluids to be heated or cooled.

In manufacturing, Althouse dyes never come in contact with corrosive metals while in the wet stage.

ALTHOUSE
Chemical Company, Inc.
READING · PA.

pace-setter in precision dye-making

Proceedings of the

American Association of Textile Chemists and Colorists

Copyright, 1949, American Association of Textile Chemists and Colorists

October 3, 1949

NATIONAL CONVENTION • ATLANTIC CITY • OCTOBER 13-15

Greetings

FROM YOUR PRESIDENT

HENRY F. HERRMANN
National President

Dear Fellow Member:

Complying with an old tradition of our Association your President invites you to attend the Annual Meeting which is to occur at Atlantic City from October 13th through the 15th. It is needless to remind those of our members who have participated in these conventions with any degree of regularity that they are enjoyable, as well as instructive. From an organization standpoint I also wish to stress their great importance to the Association as a whole. Annual meetings are the strongest factor in welding our large but scattered membership into a solid organization. Only through them do fraternal understandings and co-operation grow and demonstrate their power to integrate a nation-wide effort to attain our Constitutional Objectives.

I do not have to prompt our "regulars" to attend this meeting. They will surely be there in force. However, I wish to urge personally the many members—old and new—young and old—who have not participated in the past to come to Atlantic City and enjoy the experience of a personal contact with the A.A.T.C.C. as a national body. Meet your officers and the Council as a whole! Watch the administration function and experience first hand the operation of our research organization. You will hear more than the presentation of technical papers which, after all, can be read leisurely later on. To see the authors adds life to their words; the privilege of asking questions on the spot and to hear those presented by others in the audience vitalizes each lecture. Only by attending this convention will you be able to see the largest exhibit of apparatus and materials pertinent to our interests, ever shown at an A.A.T.C.C. meeting.

Though our Annual Meetings are becoming quite large we must nevertheless foster them so that they will be truly representative of the spirit and purposes of our Association. The infusion of enthusiasm which they provide is an essential impetus to the year-round activity of your officers and committees. The solidarity created by conventions merges sections, trades and varying personal interests into one body as no letters, visits or publications can possibly do.

One does not have to be psychic to predict that our Atlantic City meeting will be the biggest in our history. Help our Philadelphia Section to make it the finest.

Sincerely yours,

H. F. HERRMANN, *President.*

Theme: "Education Through Association"

PROGRAM

Atlantic City Convention, October 13, 14 and 15, 1949

Consult the Official Program Available at the Convention for Latest Information

Auspices of Philadelphia Section

Headquarters: Chalfonte-Haddon Hall

Thursday, October 13th

9:30 A.M.—REGISTRATION—Lobby, Haddon Hall

9:45 P.M.-12:30 P.M.—NATIONAL COUNCIL MEETING—Benjamin West Room

2:00 P.M.- 5:00 P.M.—EXHIBITS—Main Floor

2:00 P.M.-5:00 P.M.—PERSONNEL SERVICE—Room 1344

2:00 P.M.-5:00 P.M.—GENERAL TECHNICAL SESSION—Viking Room

Arthur W. Etchells, Hellwig Dyeing Corp., Philadelphia, *Presiding.*

"Current Research at Textile Research Institute Laboratories", Dr. J. H. Dillon, Textile Research Institute, Princeton, N. J.

"Textile Education and Research", Bertrand W. Hayward, Philadelphia Textile Institute, Philadelphia.

"The Catalytic Oxidation and Degradation of Cellulose", Dr. W. George Parks, Rhode Island State College, Kingston, R. I.

5:00 P.M.—ANNUAL BUSINESS MEETING—Viking Room

Henry F. Herrmann, A.A.T.C.C. President, *Presiding.*

5:00 P.M.—LADIES' COCKTAIL PARTY—Benjamin West Room

6:30 P.M.—OLNEY AWARD DINNER—Vernon Room

George H. Schuler, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., *Toastmaster.*

"The Medalist, The Scientist", Dr. Pauline Beery Mack, Ellen H. Richards Institute, Pennsylvania State College, State College, Pa.

"The Medalist, The Man", George H. Schuler.

"Address of the Medalist", Charles A. Seibert, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

8:00 P.M.—MOVIES FOR LADIES—Viking Room

Friday, October 14th

9:30 A.M.—REGISTRATION—Lobby, Haddon Hall

9:30 A.M.-12:00 Noon—PERSONNEL SERVICE—Room 1344

10:00 A.M.-10:00 P.M.—EXHIBITS—Main Floor

9:30 A.M.-12:00 Noon—NONCELLULOSIC GROUP MEETING—Benjamin West Room

Henry E. Millson, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J., *Presiding.*

"The Occurrence of Soluble Wool-Substance as a Result of the Sulfuric Acid Carbonizing Process", Jackson Bauer, Fred Whitaker Co., Philadelphia.

"Dyeing of Helindons on Wool", Dr. H. Luttringhaus, General Dyestuff Corp., New York.

"Dyeing of 'Orlon' Acrylic Fiber and Its Use in Colored Textiles", Dr. P. L. Meunier, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

9:30 A.M.-12:00 Noon—AUXILIARIES AND TESTING GROUP MEETING—Viking Room

Dr. Milton Harris, Harris Research Laboratories, Washington, D. C., *Presiding.*

"Application of the Automatic Tristimulus Integrator to Textile Mill Practice", H. R. Davidson and Dr. I. H. Godlove, General Aniline and Film Corp., Easton, Pa.

"Evaluation of Wetting Agents", Leonard Shapiro, Synthron, Inc., Ashton, R. I.

"Some Textile Detergency Research at the Institute of Textile Technology", Dr. William P. Utermohlen, Jr., Institute of Textile Technology, Charlottesville, Va.

"Static Problems in Textile Processing", D. J. Lehmicke, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

"Modification of Fiber and Fabric Properties by Wrinkleproofing and Stabilizing Agents", D. D. Gagliardi and A. C. Nuessle, Rohm & Haas Co., Inc., Philadelphia.

2:00 P.M.-5:00 P.M.—PERSONNEL SERVICE—Room 1344

2:00 P.M.-5:00 P.M.—INTERSECTIONAL CONTEST—Vernon Room

Patrick J. Kennedy, E. I. du Pont de Nemours & Co., Inc., *Presiding.*

"Factors Influencing Crockfastness of Naphthol Package-Dyed Cotton Yarns", South Central Section.

"Practical Tests for Quantitatively Evaluating Dye Characteristics and Dyeing Methods", Northern New England Section.

"Acid Colloids of Resins", Rhode Island Section.

"Dyeing Mixed Acetate and Viscose Fabrics with Vat Colors", Piedmont Section.

"Dimensional Changes Occurring in Spun Viscose Rayon Fabrics During Finishing Operations on Machinery Used for Obtaining Shrinkage Stabilization", Philadelphia Section.

"A New Approach to the Evaluation of Wool Oils for Resistance to Oxidation in Storage", Mid-West Section.

"The Application of the Differential Dyeing Test for Fiber Maturity to the Processing of Cotton", Southeastern Section.

4:00 P.M.—LADIES' TEA AND FASHION SHOW

8:00 P.M.—LADIES' ENTERTAINMENT

Saturday, October 15th

9:30 A.M.—REGISTRATION—Lobby, Haddon Hall

9:30 A.M.-12:00 Noon—PERSONNEL SERVICE—Room 1344

10:00 A.M.- 4:00 P.M.—EXHIBITS—Main Floor

9:30 A.M.-12:30 P.M.—CELLULOSIC GROUP MEETING — Benjamin West Room

Dr. Arnold L. Lippert, Joseph Bancroft & Sons Co., Wilmington, Del., *Presiding.*

"Bleaching of Cotton—A Proposed Continuous Hypochlorite Bleaching Process", L. P. Seyb and J. L. Foster, Diamond Alkali Co., Painesville, Ohio.

"Vat Dyeing—Importance of Initial Dyeing Rate", O. W. Clark and Dr. H. R. McCleary, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J.

"Problems in Aging Textile Prints and Their Control", Paul J. Choquette and Otto F. Habel, General Dyestuff Corp., New York.

"Investigation of Anticrease Treatments of Cotton", Dr. R. F. Nickerson, Monsanto Chemical Co., Everett, Mass.

9:30 A.M.-12:30 P.M.—HOSIERY GROUP MEETING—Viking Room

Virgil T. Hartquist, Jeffries Dyeing Works, Chester, Pa., *Presiding.*

"A Survey of Recent Developments in Wet Processing of Full Fashioned Hosiery", Harold L. DeTurck, Berkshire Knitting Mills, Reading, Pa.

"Nylon Staple", D. H. Heckert, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

"Chemical Reactivity of Wool in Relation to Antishrink Processes", Dr. P. A. Alexander, Woolsey, Ltd., England.

6:30 P.M.—ANNUAL BANQUET—Carolina Room, Chalfonte Hotel

James Dixon, Calco Chemical Division, American Cyanamid Company, Philadelphia, *Toastmaster.*

Introduction of Guests.

Intersectional Contest Awards.

Address, Henry F. Herrmann, A.A.T.C.C. President.

Address, Morris Sayre, Chairman of the Board, National Association of Manufacturers.

Greetings
FROM THE CHAIRMAN, PHILADELPHIA SECTION

THE Philadelphia Section extends its warmest invitation to all members of the American Association of Textile Chemists and Colorists to attend the 28th National Convention in Atlantic City, New Jersey, October 13, 14 and 15.

The Headquarters for the Convention will be the Chalfonte-Haddon Hall Hotel with its large cheerful rooms, fresh and salt water baths, located on the famous Boardwalk overlooking the Atlantic Ocean.

We trust that every member will be present to share in the wonderful technical program and observe the many interesting exhibits which will be on display. The Convention Committee is engaged enthusiastically in the hundred and one jobs necessary to insure a successful and thoroughly pleasant Convention for all.

Atlantic City, the Playground of the World, whose climate is consistently mild, offers you many pleasurable hours with endless opportunities to relax and enjoy this vacation resort.

Looking forward to your attendance and participation in this coming Convention which we are hoping will be one of the largest and most successful in the history of the American Association of Textile Chemists and Colorists.

With my best wishes to all.

JAMES DIXON,
Chairman, Philadelphia Section

WALTER F. FANCOURT, III
General Chairman, Convention Committee

JAMES DIXON
Chairman, Philadelphia Section

Greetings
FROM THE CONVENTION CHAIRMAN

WELCOME to Atlantic City. The Philadelphia Section, who are hosts for the 1949 National Convention of the A.A.T.C.C., extends greetings to all Members of our Association and trust a large number are planning to be with us in Atlantic City on October 13, 14 and 15th.

The Convention Committee has planned an excellent technical and recreational program that we feel will be enjoyed by all in attendance. The largest exhibit ever attempted in the history of the A.A.T.C.C. will be held this year. This exhibit will cover a floor space of over ten thousand square feet, composed of forty companies, six textile schools, the Armed Services, plus our own A.A.T.C.C. as exhibitors. The scope and size of this exhibit will rival that of trade shows and the viewing of it is a MUST for those attending the Convention. It is our hope that your visit will result in "Education Through Association."

WALTER F. FANCOURT, III,
General Convention Chairman

LOUIS A. OLNEY

1874-1949

Founder of the American Association of Textile Chemists and Colorists

THE 1949 CONVENTION THEME

WITH the thought that Vision is indispensable to progress and ofttimes a clearer view of our problems is obtained by meeting with our fellow men, the theme of the 1949 American Association of Textile Chemists and Colorists Convention was established as "Education through Association."

In 1948, the world's oldest manufacturing industry spent over five hundred million dollars on plant improvements, new machinery and research. Revolutionary textiles now appearing on the market possess qualities which men have sought for centuries. According to man's needs, fabrics are at his command which are resistant to water, flame, stain, mildew, shrinkage, etc. New machines that will knit five hundred rows fourteen feet wide every sixty seconds . . . continuous process equipment that washes, bleaches and dyes cloth in one operation at a speed of one hundred-fifty to three hundred yarns a minute now are available.

These better textiles and equipment were born of research—research by mills and groups of mills—by chemical and machinery suppliers—by private groups and universities—by the A.A.T.C.C. and all its members, but mainly by men meeting and sharing ideas with one another, thus "educating through association."

C. NORRIS RABOLD
National Vice-President

J. ROBERT BONNAR
Chairman, General Research Committee
Chairman, Executive Committee on Research

JOHN N. DALTON
National Vice-President
Chairman, National Membership and Local Sections Committee

HAROLD C. CHAPIN
National Secretary
Chairman, National Constitution and Bylaws Committee

WILLIAM R. MOORHOUSE
National Treasurer
Chairman, National Appropriations Committee

HAROLD W. STIEGLER
National Director of Research

ARTHUR W. ETCHELLS
Chairman, National Technical Programs Committee

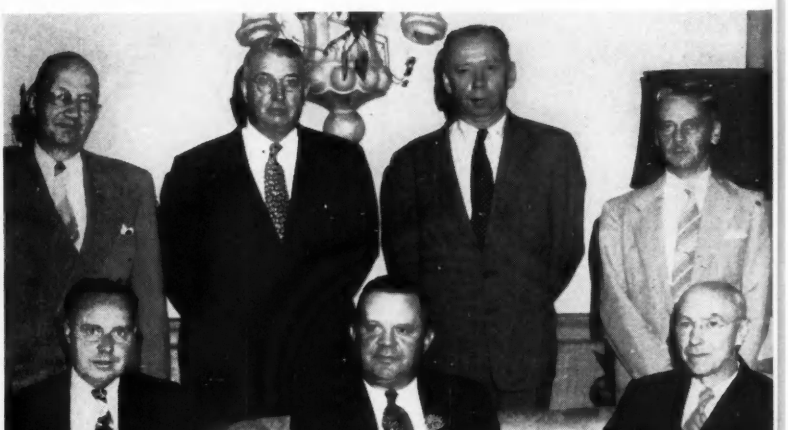
LEONARD S. LITTLE
Chairman, National Corporate Membership Committee

MORRIS SAYRE
Guest Speaker at Convention

KENNETH H. BARNARD
Chairman, National Conventions Committee

PAUL J. LUCK
Chairman, National Publicity Committee

Executive Committee on Research



Shown above are members of the Executive Committee on Research at a meeting at The Warwick, New York City, on September 8th. They are left to right:
Seated—J. Robert Bonnar, Henry F. Herrmann, William D. Appel.
Standing—Percival Theel, Samuel L. Hayes, Miles A. Dahlen, Harold W. Stiegler.

A Report BY THE CONVENTION COMMITTEE

THE double-feature attraction of a top-notch technical program plus the largest exhibit in the organization's history point to the 28th National Convention of the American Association of Textile Chemists and Colorists being one of the finest on record.

Further supporting this viewpoint is the fact that the site of the October 13-14-15 meeting—Atlantic City, New Jersey—provides an excellent setting for the annual conclave.

Convention Headquarters

Chalfonte-Haddon Hall, headquarters for the convention is centrally-located and has excellent facilities for housing the largest exhibit area and all meetings and social activities. ALL THOSE ATTENDING THE CONVENTION WILL BE QUARTERED IN HOTELS CLUSTERED ABOUT HADDON HALL AND WILL BE NO MORE THAN 100 YARDS FROM THE SCENE OF ALL CONVENTION ACTIVITIES.

Technical Program

The Convention Committee is pleased with the quality of the Technical Program, which has been printed in these columns. Considerable interest was shown by persons anxious to present papers and the meetings and speakers were arranged after the committee gave serious consideration to the interests of various people attending the convention. The result was a cross-section of subjects of vital concern to the textile and allied industries.

Exhibits

Considerable time and effort was spent in arranging for the exhibit and with some 40 companies, six textile schools, the Armed Forces (Army, Navy, Marine Corps) and the A.A.T.C.C. occupying the 70 booths, the exhibit will rival many trade shows in scope. Nearly 10,000 square feet of floor space will be taken-up by the exhibit and the demonstrations planned by exhibitors will be on a high plane and should command the attention of the entire industry, in the opinion of the Committee.

Banquet Speaker

In Morris Sayre, Chairman of the Board of the National Association of Manufacturers, the Committee has obtained a man of renown in national and international business circles. Only a top-flight executive could rise to the highest office in the N.A.M. and Mr. Sayre's remarks are certain to be of interest to everyone attending the convention. The speaker, in his N.A.M. post, is in an excellent position to feel the pulse of the nation's industrial machine.

Entertainment

Some of the top names in show business have been drawn to furnish entertainment at convention social functions. Jean Carroll, rising young comedienne of radio and stage, will be present, coming from engagements at such famous spots as the Copacabana and the Capital Theater in New York; Ciro's, Hollywood; Chez Paree, Chicago; Lookout House, Covington, Kentucky and other clubs. She also has appeared on coast-to-coast radio hook-ups. Then, for the music lovers, there will be the Eight Guardsmen, a singing aggregation that needs no build-up, having been radio favorites for some time. A variety of other talent will be on the bill.

Olney Award

The host for the convention, the Philadelphia Section, is thrilled with the news that one of its own distinguished members, Charlie Siebert, is to receive the coveted Olney Award. A member of the Philadelphia Section since 1926, "Charlie" was its chairman during 1930-31 and later was secretary for five years. He also served as Section Councilor and was a representative for the Section on the nominating committee selecting candidates for national office. "Seibert the Scientist" is another story which will be unfolded at the convention.

Atlantic City

This, the 28th National Convention, will take place on the famous Boardwalk of Atlantic City, with the A.A.T.C.C. crowd moving in only a short time after Miss America and other aspirants for her crown departed.

The seashore resort, which proudly claims title as the "Playground of the World," has an ideal setup for conventions, as evidenced by the ever-growing list of organizations that hold meetings there.

October is an invigorating month on the Jersey Shore. Gone are the summer vacationists with their sunburn, yet there are still enough tourists around for "Fall Holiday" to keep the city alive.

As was the case many years ago, Atlantic City today does not roll up the boardwalk at the last breath of summer—convention activity keeps it nailed down throughout the year.

When the convention program allows for leisure, there's plenty to see and do in Atlantic City. First an expedition down the boardwalk, with an inspection of the various shops thereon. Golf can be arranged through a committee-man, for there are nearby clubs. Also there's boating and fishing and even early morning horse-back riding on the beach.

We've said it before and we say it again: for a Fall Refresher in health and technical know-how, join us on the Boardwalk at Atlantic City come Convention time.

OLNEY MEDAL

To Be awarded to Charles A. Seibert

THE Olney Medal will be presented to Charles A. Seibert of E. I. du Pont de Nemours & Co., Inc., at the Olney Award Dinner to be held on Thursday evening, October 13th, at Chalfonte-Haddon Hall, Atlantic City, during the Twenty-Eighth National Convention. Mr. Seibert is the sixth person to receive the award, previous winners being: Dr. Louis A. Olney (1944), Dr. Milton Harris (1945), William H. Cady (1946), Edward R. Schwarz (1947) and Harold M. Chase (1948).

Mr. Seibert was born on October 18, 1884 in New York City and completed his public school education there in June, 1899, which was followed by eight years of evening school. From October, 1899, to March, 1907, he was employed in the laboratory of the Oakes Manufacturing Company. Between March, 1907, and October, 1925, he was employed as a laboratory technician, demonstrator of vat dyes and in charge of various activities connected with the manufacture of acid and sulfur dyes by a number of firms, including: Continental Color & Chemical Co. (a part of which became the Farbenfabriken of Elberfeld Co., later the Bayer Co., Inc. and still later a part of General Dyestuff), Williams & Crowell Color Company, Graselli Company, Standard Silk Dyeing Company, Passaic Color Corporation and Graselli Color & Chemical Company. He next started a rayon dyehouse in Coshohocken, Pa. after which he went with Du Pont, starting May 26, 1926, with which firm he remains.

Mr. Seibert has been particularly active in A.A.T.C.C. affairs, having served as an officer of the Philadelphia Section, a national vice-president, and chairman of numerous research committees. He has also been active in A.S.T.M. and a member of other textile associations. He has been an A.A.T.C.C. member since 1925.

At the Award Dinner, George H. Schuler of Du Pont will speak on "The Medalist, The Man" and Dr. Pauline Beery Mack of Ellen H. Richards Institute, Pennsylvania State College, will discuss "The Medalist, The Scientist".

CHARLES A. SEIBERT

The Olney Medal was endowed by the Howes Publishing Company, Inc. and is awarded by the Association at intervals of not less than a year for outstanding achievement in the field of textile chemistry, including the development of chemical agents or chemical processes used in the manufacture of textiles, or methods for their evaluation. Its purposes are to encourage and to afford public recognition of such achievements and contributions, and to be a testimonial to Dr. Louis A. Olney, founder of the A.A.T.C.C., for his lifetime of devotion and multitudinous contributions to this field.

The election of a candidate to receive the award is by unanimous agreement of the Olney Medal Committee of five, constituted as follows: (1) the President of the Association, (2) a member of the faculty of an educational institution awarding degrees in chemistry, (3) an employee of a concern manufacturing chemical products used in textile wet processing, (4) an employee of a concern manufacturing textiles, (5) a member at large, who may be any qualified individual. All must be senior members of the Association. The present members of the Committee and their terms of office, from January, 1949, are (1) President Henry F. Herrmann, *ex-officio,* (2) Kenneth R. Fox, 2 years, (3) Wyss L. Barker, 3 years, (4) Harold W. Leitch, 4 years, (5) Walter M. Scott, 1 year.

FOR ACHIEVEMENT IN TEXTILE CHEMISTRY
LOUIS A OLNEY
THE OLNEY MEDAL AWARDED BY THE AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS TO

Face and Back of the Olney Medal

LOCAL CONVENTION COMMITTEES

for the Atlantic City Convention

Chairmen and co-chairmen of various subcommittees for the 28th National Convention shown at a pre-convention meeting.

Front row, left to right:—Walter G. Hamlen, Chairman of Hotel Reservations Committee; Percival Theel, Chairman of Printing and Personnel Committee; Ernest E. Rettberg, Jr., Convention Vice-Chairman; James Dixon, Chairman of the Philadelphia Section; Walter F. Fancourt, 3rd, General Chairman of Convention; Richard B. Stehle, Chairman of Finance Committee; Richard L. Jones, Chairman of Ladies Committee.

Rear Row, left to right: John J. Tomalino, Co-Chairman of Transportation Committee; Frederick V. Traut, Registration Committee; John Linton, 3rd, Co-chairman of Technical Committee; Arthur W. Etchells, Chairman of Technical Program Committee; C. T. Anderson, Co-Chairman of Finance Committee; John Koch, Ladies Committee; John Barton, Co-Chairman of Banquet Committee; William O. Neeb, Chairman of Technical Committee; Harry L. Morgan, Co-Chairman of Exhibits Committee; William Hughes, Co-Chairman of Printing and Personnel Committee; M. H. Klein, Chairman of Exhibits Committee; Virgil T. Hartquist, Technical Committee and Ralph W. Jones, Chairman of Publicity Committee.

ERNEST E. RETTBERG, JR.
Vice-Chairman, Convention Committee

General Chairman
Walter F. Fancourt, 3rd

Vice-Chairman
Ernest E. Rettberg, Jr.

Entertainment
John W. Jordan, *Chairman*
Curt Baeringer, *Co-Chairman*
Edward Smith
George R. Tjaden

Technical Program
William O. Neeb, *Chairman*
John Linton, 3rd, *Co-Chairman*
Joseph P. Rulli
Kenneth L. Harper
Graham J. Littlewood, 3rd
Virgil T. Hartquist
George Altenbaumer

JOHN W. JORDAN
Chairman, Entertainment Committee

WILLIAM O. NEEB
Chairman, Technical Program Committee

Reception Committee

Charles A. Seibert, *Chairman*
Arthur M. Gordon, *Co-Chairman*
Elmer C. Bertolet
Alban Eavenson
Edward S. Chapin, *Northern New England*
Elliot Broadbent, *Rhode Island*
Joseph H. O'Neill, *South Central*
Elliott Morrill, *Mid-West*
Curt Mueller, *Southeastern*
Miss Alice G. Balfrey, *Western New England*
Ernest Hart, *New York*
Arthur R. Thompson, *Piedmont*
Frank P. Brennan, *Pacific Coast*
Dr. Jack Epelberg, *Hudson-Mohawk*

WALTER G. HAMLEN, JR.
Chairman, Hotel Committee

Hotel

Walter G. Hamlen, Jr., *Chairman*
Harold B. Dohner, *Co-Chairman*
M. M. Anderson
E. J. Grajeck
Charles J. Haas
Richard D. Seed

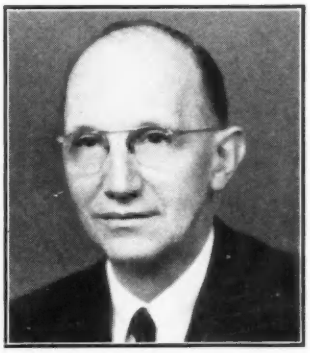
RICHARD B. STEHLE
Chairman, Finance Committee

Finance

Richard B. Stehle
C. T. Anderson

Printing and Personnel Service

P. Theel, *Chairman*
William H. Hughes, *Co-Chairman*
Jackson Bauer
Carrol Brooke
Edward C. Diehl
A. H. Reineke



PERCIVAL THEEL
Chairman, National Publications Committee
Convention Chairman, Printing & Personnel Service Committee

Registration

A. E. Raimo, *Chairman*
T. H. Hart, *Co-Chairman*
A. W. Edwards
E. Burrell
R. W. Davie
M. M. Guertin
F. E. Nevins
Fred Traut
J. E. Conway
T. J. Scanlon
William H. Bertolet, Jr.
James A. Branegan, Jr.

A. E. RAIMO
Chairman, Registration Committee

Transportation

James P. Conaway, *Chairman*
John J. Tomalino, *Co-Chairman*
Edward H. Keys
Max Lane
W. B. Griffin, *Southeastern*
J. R. Redmond, *Rhode Island*
F. P. Brennan, *Pacific Coast*
H. H. Taylor, *Western New England*
W. A. Nelson, *Hudson-Mohawk*
J. J. Marshall, *New York*
G. O. Linberg, *Northern New England*

JAMES CONAWAY
Chairman, Transportation Committee

RALPH JONES
Chairman, Publicity Committee

M. H. KLEIN
Chairman, Exhibits Committee

Publicity

Ralph Jones, *Chairman*
Allan Watson
John S. Rhodes

Banquet

Al H. Seitz, *Chairman*
John W. Barton, *Co-Chairman*
Donald W. Robinson
Joseph M. Welsh
J. C. Jordan
M. H. West

Ladies

Richard L. Jones, *Chairman*
Mrs. Arthur M. Gordan, *Co-Chairman*
John Koch, Jr.
Mrs. Ernest E. Rettberg, Jr.
Mrs. Lloyd O. Koons
Mrs. Ernest Burrell
Mrs. Walter F. Fancourt, 3rd

Exhibits

M. H. Klein, *Chairman*
Harry L. Morgan, *Co-Chairman*
Bertrand W. Hayward
Lloyd O. Koons
Edward S. Pierce
Alfred F. Felgendreger

ALBAN H. SEITZ
Chairman, Banquet Committee

RICHARD L. JONES
Chairman, Ladies Committee

Hotel Rooms Available For All

The Convention Committee announces that rooms for all persons attending the Convention will be available and will be no more than 100 yards from the scene of all Convention activities.

Intersectional Contest Committees

for Contest at Atlantic City Convention

PATRICK J. KENNEDY
Chairman, National Intersectional Contest Committee

National Committee

Patrick J. Kennedy, *Chairman*
L. W. Craft, *Secretary*
J. Robert Bonnar
Frank J. O'Neil
C. Norris Rabold
J. Gilbert Mearns
Hillary Robinette, Jr.
Frank L. Bradley

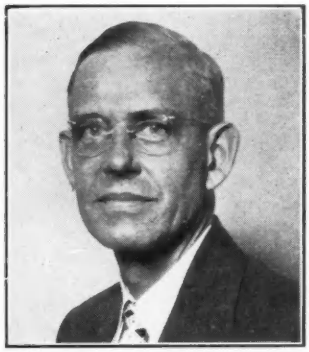
Judges

Chief Justice

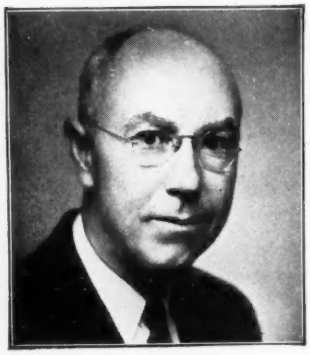
William D. Appel

Judges Representing Sections

Mid-West
Gerhard R. Kremers
Philadelphia
Dr. Onslow Hager
Northern New England
Herbert E. Wieland
Piedmont
Wyss L. Barker
Rhode Island
Peter J. Ariente
South Central
J. H. O'Neill
Southeastern
Dr. James L. Taylor
Pacific Coast
Francis B. Morton
Hudson-Mohawk
Albert E. Herrmann
Western New England
Dr. J. Edward Lynn
New York
Dr. Herman E. Hager

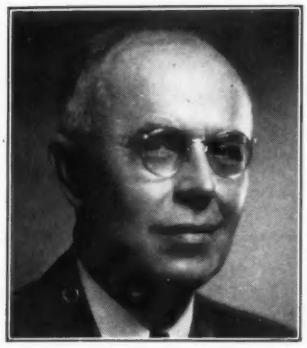


L. W. CRAFT
Secretary, National Intersectional Contest Committee



WILLIAM D. APPEL
Chief Justice

BERTIL A. RYBERG
Chairman, Mid-West Intersectional Contest Committee



CHARLES B. ORDWAY
Chairman, Piedmont Intersectional Contest Committee

Northern New England Section

John H. Skinkle, *Chairman and Speaker*
Frank J. O'Neil
Leslie Christison
Sawyer F. Sylvester
Ernest R. Kaswell
Joseph B. Masaschi
Jacob K. Frederick, Jr.
Paper: "Practical Tests for Quantitatively Evaluating Dye Characteristics and Dyeing Methods"

Philadelphia Section

Jackson A. Woodruff, *Chairman and Speaker*
Arthur W. Etchells
E. C. Neussle
Arnold L. Lippert
D. D. Gagliardi
R. H. Drukker
E. McCoy
T. R. Foltz
P. Theel
Paper: "Dimensional Changes Occurring in Spun Viscose Rayon Fabrics During Finishing Operations on Machinery Used for Obtaining Shrinkage Stabilization"

JACKSON A. WOODRUFF
Chairman, Philadelphia Intersectional Contest Committee

Piedmont Section

Charles B. Ordway, *Chairman*
Joe Lindsay, Jr., *Speaker*
S. H. Williams
R. A. Bruce
H. J. Jordan, Jr.
James N. Grant
Clarence Hooper
Dr. H. Y. Jennings
Linton C. Reynolds
V. B. Holland
Paper: "Dyeing Mixed Acetate and Viscose Fabrics with Vat Dyes"

ALDEN D. NUTE
Chairman, Rhode Island Intersectional Contest Committee

Rhode Island Section

Alden D. Nute, *Chairman and Speaker*
Dr. W. George Parks
Fred R. Tripp
James C. Shore
George H. Wood
William J. Crawford
Dr. George M. Gantz
Dr. Louis Cook
Leonard A. Stanley
Raymond A. Pingree
Emory A. Richards
Andrew McNulty
Paper: "Acid Colloids of Resins."

Mid-West Section

Bertil A. Ryberg, *Chairman and Speaker*
Merrill G. Morris
Clarence G. Wille
Paul Soderdahl
William H. Shields
Joseph H. Jones
John E. Schroder
Lawrence Locken
Andrew F. Blackburn
William F. McNamara
Dr. Leonard J. Armstrong
Paper: "A New Approach to the Evalution of Wool Oils for Resistance to Oxidation in Storage"

WILLIAM F. LUTHER
Chairman, South Central Intersectional Contest Committee

South Central Section

Dr. William F. Luther, *Chairman and Speaker*
O. T. Lankford
Homer Whelchel
H. H. Eager, Jr.
W. G. Agnew
H. A. Webb
Paper: "Factors Influencing Crockfastness of Naphthol Package Dyed Cotton Yarns"

Southeastern Section

James D. Dean, *Chairman*
Herbert O. Smith, *Speaker*
Charles F. Goldthwait
Robert O. Simmons
S. Jack Davis
Howard M. Waddle
Paper: "The Application of a Differential Dyeing Test for Fiber Maturity to the Processing of Cotton"

JAMES D. DEAN
Chairman, Southeastern Intersectional Contest Committee

Your Convention Host—

THE PHILADELPHIA SECTION

CHARLES A. SEIBERT
E. I. du Pont de Nemours & Co., Inc.

THE object of this history is to make available in interestingly readable form facts and data on the Philadelphia Section.

It is prepared with a description of the organization and the activities of the first year in detail and continues with the subsequent period in the form of a very brief description of the principal achievements including the names of the Chairmen, their service periods and the number of meetings held seasonally or annually.

The description in detail of the inaugural and very early period is to identify the persons intimately concerned and their contributions, because much of this information is not included in the Year Books and reports in the American Dyestuff Reporter of that time.

The most important items in the history of the Section subsequent to this early period are in the *Year Books* and issues of the *American Dyestuff Reporter.* These are available in some libraries, from some charter members and from the Howes Publishing Company. The Sections members through the Secretary shall be pleased to endeavor to furnish omitted information on personal inquiry.

Three of the National Association Presidents, were members of the Philadelphia Section when elected: Dr. Robert E. Rose, deceased, served in 1933, 1934 and 1935; Alban Eavenson, in 1938 and 1939, and William D. Appel, in 1944, 1945 and 1946.

Two members of the Section have served as Vice-Presidents: Elmer C. Bertolet and Charles A. Seibert and the latter is selected to receive the Olney Medal for the year 1949.

The Section has been host to the Annual Convention in 1924, 1929, 1937, 1944 and 1949.

In the Intersectional Contest, the Philadelphia Section has received first prize in 1943, second prizes in 1941, 1946 and 1947, and third prizes in 1940, 1942 and 1948.

Including the year 1949, the Section will have held 143 recorded technical program meetings with prepared papers and discussions by more than 200 different persons on a wide variety of technical subjects.

Chronological Sequence of Events

1922

JUNE 5th

Petition to the Council for approval to form the Section, prepared by Elmer C. Bertolet and signed by:

Sidney S. Bailey, Jr.
Elmer C. Bertolet
Robert A. Carter
Walter G. Hamlen, Jr.
Charles S. Hollander
Leslie N. Hood
Russell W. Hunt
Albert S. Jones
Ralph A. MacIntyre
Carl E. Medde
Edwin S. Millspaugh
Eric J. Monaghan
Charles E. Mullin
Fred L. Nuttall
Otto Poetzsch
Israel Reiner
Robert E. Rose
J. Henry Shackelton
Lawrence A. Stead
Percival Theel
Joseph L. Wade
William J. Wall
L. DaCosta Ward
Howard R. Watt
Morton H. Wertheim
Clarence C. W. Wilson

JUNE 9th

The Council approved and appointed Elmer C. Bertolet, secretary *pro tem* to organize the Section.

NOVEMBER 10th

Organization meeting held in the Philadelphia Textile School with Elmer C. Bertolet acting as Chairman, *pro tem.*

After a brief summary of what led to this meeting by the Chairman *pro tem,* a motion by Mr. Medde, seconded by Dr. Hollander resulted in the election of Dr. R. E. Rose as temporary Chairman. A motion by Dr. Hollander to proceed with the organization, to be known as the Philadelphia Section, was approved and Dr. Rose was authorized to and appointed a committee to nominate officers, consisting of Messrs. Theel, Chairman, Medde, Mullin, Hollander.

A motion by Mr. MacIntyre, seconded by Dr. Hollander was then approved to schedule meetings for the current season on the first Friday in the months of October, December, February, April and June at 8:15 P.M.

The Nominating Committee then presented a report which resulted in the election of:

Chairman: Dr. Robert E. Rose

Treasurer: Dr. Chas. S. Hollander

Secretary: Elmer C. Bertolet

Sectional Committee: Ralph A. MacIntyre, Donald S. Ashbrook, Carl E. Medde and Charles E. Mullin.

The Chairman then appointed the following committees:

By-Laws: Chas. S. Hollander, Chairman; Walter G. Hamlen, Jr.

Program: Chas. E. Mullin, Chairman; Ernest C. T. Bick, Edwin L. Duhring, George H. Schuler

Membership: Percival Theel, Chairman; Ralph A. McIntyre, Eric J. Monaghan, William J. Wall.

Elmer C. Bertolet, representing the Philadelphia Textile School, offered the facilities of the School as the meeting place of the Section and the offer was accepted with thanks for immediate future meetings.

Membership application forms were distributed to all present with the request that they be used in an effort to increase the membership.

On motion, the meeting adjourned at 10:15 P.M. with the next meeting scheduled for Friday, January 5, 1923 at the Philadelphia Textile School, at 8:15 P.M.

Those present at the meeting were:

Sidney S. Bailey, Jr.
Elmer C. Bertolet
Edwin L. Duhring
Walter G. Hamlen, Jr.
Dr. Chas. S. Hollander
Russell W. Hunt
Ralph A. MacIntyre
Carl E. Medde
Eric J. Monaghan
Chas. E. Mullin
J. H. McGlinchey
Fred L. Nuttall
George W. Pressell
Frank L. Remlein
Dr. R. E. Rose
George H. Schuler
Daniel Shea
Percival Theel

1923

JANUARY 5th

This, the first stated meeting of the Section was declared in session at 8:15 P.M. by the Chairman, Dr. R. E. Rose. The minutes of the organization meeting were read and approved.

Percival Theel, reported the Section had 55 members, 8 of whom had their homes at too great a distance to attend meetings regularly.

Chas. E. Mullin reported that a program for the next meeting was being arranged.

Dr. Hollander read the proposed By-laws and it was approved that they be considered for action at the next meeting.

Dr. Rose explained the objects of the A.A.T.C.C. and the qualifications for membership.

The Technical Program followed and consisted of addresses by Dr. Chas. S. Hollander on "Properties of Hydrosulfites and Sulfoxylates." This paper was read at the second annual meeting of the Association in New York on December 2, 1922 and is printed in the *American Dyestuff Reporter,* issue of January 1, 1923.

Edward L. Helwig, Rohm & Haas Co., "Methods of Analysis and Evaluation of Hydrosulfites and Sulfoxylates."

Ralph A. MacIntyre, Eddystone Mfg. Co., "Use of Sulfoxylates in Calico Printing."

Frank L. Remlein, Technical Laboratory, Du Pont Co., "The Use of Hydrosulfites in Dyeing Silk and Cotton with Vat Dyes."

Attendance 150.

The complete minutes of this meeting are printed in the American Dyestuff Reporter, Vol. 12, No. 3, January 29, 1923.

1922-1923

SEASON

In addition to the two meetings described, two more were held; March 2nd and May 4, 1923, at the Philadelphia Textile School, with presentation of papers on the following subjects.

E. B. Kerst, Manager, Providence Office, Proctor & Schwartz, Inc., "Principles of Construction and History of Development of Dryers."

Dr. George W. Raiziss, Dermatological Research Laboratory, "Dyestuffs in Medicine."

1923-1924

SEASON

Chairman: Dr. Charles S. Hollander
Secretary: Percival Theel
Treasurer: Elmer C. Bertolet
Sectional Committee: Dr. R. E. Rose, Charles F. Goldthwait, Ralph A. MacIntyre, Charles E. Mullin.

Four meetings were held and a Constitution and By-Laws for the Section were adopted at the meeting of December 14, 1923. Dr. Hollander was Chairman of the Committee that prepared the Constitution and By-Laws.

1924-1925

SEASON

Chairman: Elmer C. Bertolet
Secretary: Percival Theel
Treasurer: Carl E. Medde
Sectional Committee: Dr. Chas. S. Hollander, Ralph A. MacIntyre, Lawrence A. Stead, Wm. J. Wall.

Five meetings were held and the Section acted as host for the Annual Meeting of the Association on December 6, 1924 at the Hotel Bellevue-Stratford.

1925-1926

SEASON

Chairman: Carl E. Medde
Secretary: Percival Theel
Treasurer: John H. Hennessey
Sectional Committee: R. A. MacIntyre, E. C. Bertolet, C. S. Hollander, L. A. Stead.

Seven meetings were held.

1926-1927

SEASON

Chairman: Ralph A. MacIntyre
Secretary: Percival Theel
Treasurer: Paul A. Endriss
Sectional Committee: L. A. Stead, E. C. Bertolet, C. S. Hollander, Chas. E. Mullin.

Seven meetings were held.

1927-1928

SEASON

Chairman: Elmer C. Bertolet
Secretary: Percival Theel
Treasurer: Paul A. Endriss
Sectional Committee: C. S. Hollander, R. H. Brehm, Jr., R. A. MacIntyre, L. A. Stead.

Six meetings were held.

1928-1929
1929-1930

SEASONS

Chairman: A. Moody Burt

Six Technical Program meetings were held during the 1928-1929 season and seven during the 1929-1930 season. At the meeting on January 24, 1929, the By-laws of the Section were amended to be in agreement with changes made in the National Association By-laws.

The Section acted as host for the Annual Convention held at the Bellevue-Stratford Hotel, December 6-7, 1929. The National Association retained responsibility for this convention with the exception of the banquet, for which the Section

Chairman appointed the following committees with the Chairman as Guy H. Newcomb, banquet; Paul A. Endriss, publicity; Robert M. Moore, reception, and Joseph E. Goodavage, entertainment.

1930-1931
1931-1932

SEASONS

Chairman: Charles A. Seibert

Six technical program meetings were held and the first Annual Outing during the former and three technical program meetings and the Annual Outing during the latter.

1932-1933
1933-1934

SEASONS

Chairman: William A. Stringfellow

Four technical program meetings were held during the former and four during the latter season with Annual Outings in each.

1934-1935

SEASON

Chairman: Robert A. Bruce

Elmer C. Bertolet appointed by the National Council to organize the Section was elected Chairman Emeritus at the election for this season and has been reelected yearly since.

Four technical program meetings and the Annual Outing were held. Eugene C. Knaeble was elected as the first Councilor to represent the Section.

1936

CALENDAR YEAR

Chairman: Robert E. Sullivan

Five technical program meetings and the Annual Outing were held.

1937

Chairman: Herbert S. Travis

Four technical program meetings and the Annual Outing were held and the Section acted as host for the National Annual Convention held at the Bellevue-Stratford Hotel, December 3-4, with R. Max Ritter, the Section National Councilor acting as General Chairman.

1938

Chairman: Herbert S. Travis

Five technical program meetings and the Annual Outing were held.

1939

Chairman: William Ebersold

Six technical program meetings and the Annual Outing were held.

1940

Chairman: Harold B. Dohner

Six technical program meetings and an Annual Outing were held and the Section was awarded third prize in the Inter-Sectional Contest for a paper on "Variables Encountered in Fadeometer Testing."

1941

Chairman: John F. McCoy

Six technical program meetings and an Annual Outing were held and the Section was awarded second prize in the Inter-Sectional Contest for a paper on "Testing Vat Dyed Cotton for Fastness to Hypochlorite Bleach."

1942

Chairman: Arthur E. Jones, Jr.

Four technical program meetings and an Annual Outing were held and the Section was awarded third prize in the Inter-Sectional Contest with a paper on "Value of Laboratory Test in Predicting the Color Fastness Performance of Dyed Textiles."

1943

Chairman: James P. Conaway

Five technical program meetings and an Annual Outing were held and the Section received first prize in the Inter-Sectional Contest with a paper on "Minimum Chrome Required for Afterchrome Dyeing."

1944

Chairman: Boyce C. Bond

Six technical program meetings and an Annual Outing were held and the Section acted as host for the National Association Convention held in Atlantic City, New Jersey, October 12-14 with C. A. Seibert as General Chairman.

Registered attendance 1201.

1945

Chairman: Arthur W. Etchells

Five technical program meetings and an Annual Outing were held.

1946

Chairman: Curt R. Baeringer

Six technical program meetings and an Annual Outing were held.

1947

Chairman: Walter F. Fancourt, 3rd

Five technical program meetings with an attendance of more than 700, and an annual outing with an attendance of 325, were held.

The 25th anniversary of the founding of the Section was commemorated and celebrated at a dinner on November 8th in the Main Ballroom of the Penn-Sheraton Hotel in Philadelphia with an attendance of 270.

1948

Chairman: Arthur M. Gordon

Six technical program meetings with an attendance of 1261 and an annual outing with an attendance of 271, were held.

At a regular meeting in January, Mr. A. E. Raimo was presented a watch in appreciation of his long service as Secretary for the Section.

1949

Chairman: James Dixon

Five technical program meetings and an annual outing are scheduled and the Section will be host to the 28th National Convention.

EXHIBITS AT NATIONAL CONVENTION

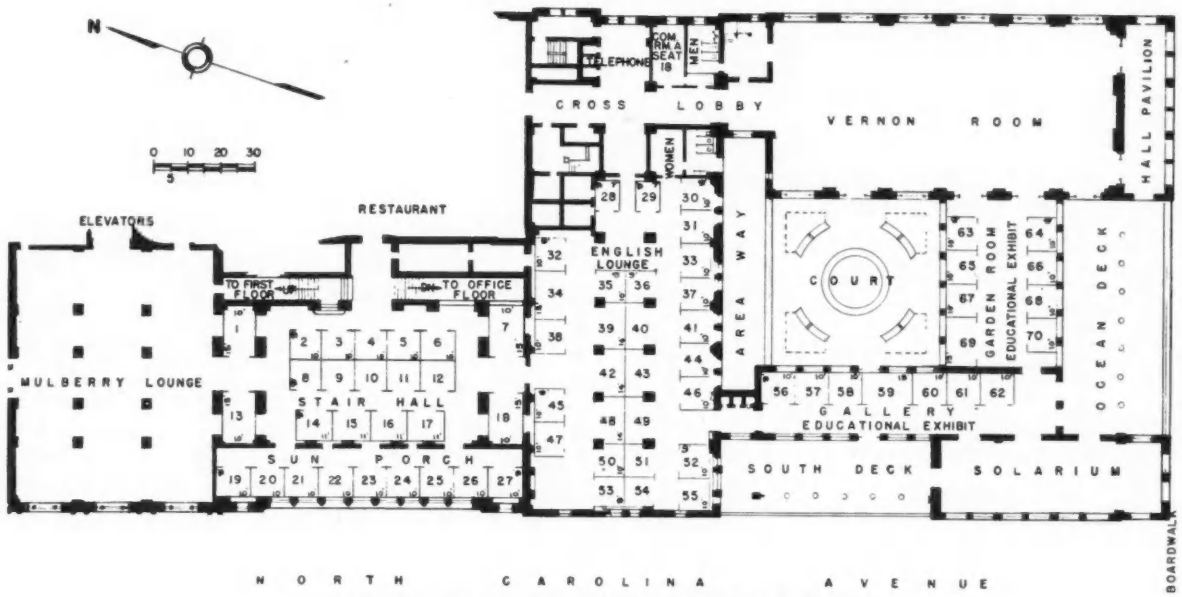


Exhibit Area at Chalfonte-Haddon Hall

THE twenty-eighth national convention, under the auspices of the Philadelphia Section, to be held at Atlantic City October 13-15 will be the largest ever held by the A.A.T.C.C. All exhibition space has been sold in Chalfonte-Haddon Hall, and the exhibits dotting the 10,000 square feet of floor space will be on an exceptionally high plane. Due to the high calibre, the exhibition is commanding the attention of the entire industry.

Following is descriptive material of the various exhibits:

Alco Oil and Chemical Corp.

Trenton Ave. & William St., Philadelphia 34, Pa.

Booth No. 7

A combination of textile fabrics of various manufacturers of velours, plushes, and automotive fabrics that are being rubber coated for the automotive and furniture industries; also, sponge rubber in sheet form manufactured by Firestone for whom Alco is the textile distributor will make up this exhibit.

In attendance: Dr. O. B. Hager, J. W. Jordan, D. W. Robinson and A. E. Jones, Jr.

Amalgamated Chemical Corp.

Philadelphia 34, Pa.

Booth No. 45

Products for the wet processing and finishing of knitted and woven textiles will be exhibited. These will include the Alkamines, Dynesols and Nionines, surface active agents useful for the wetting-out, penetrating, dyeing and scouring of all textile fibers; the Velubras, softening and finishing agents for all textile fabrics, and the Filaseal Resin finishes for all textile fibers.

In attendance: Harold B. Dohner, President; Robert A. Bruce, Vice President; John M. Jester, Jr., Secretary; Hillary Robinette, Jr., Research Director; Charles E. Seel, Sales Representative; and George C. Harkins, Sales Representative.

American Aniline Products, Inc.

50 Union Square, New York 3, N. Y.

Booth No. 43

A portion of this exhibit will be an animated unit portraying the better Napthol dyeings obtainable with the use of one of the company's auxiliary products, "Stabilon".

In addition a display is planned for a complete range of Fast Colors (Napthols and Vats) on cotton hosiery and anklets —practical formulations will be included.

A slide projector will also show scenes of dyestuff manufacture and application.

The exhibit will be rounded out with an assortment of all kinds of cloth, processed with American Aniline dyestuffs, by various customers.

In attendance: Managers: H. I. Belton, Boston Branch; E. K.

Bush, Providence Branch; L. J. Dogin, Metropolitan District, A. H. Seitz, Philadelphia Branch; J. H. Orr, Charlotte Branch, E. F. Smith, Chicago Branch. From the New York Office: G. L. Armour, W. J. Loeffler, and J. J. Marshall. Some of the branch salesmen will also be present.

American Association of Textile Chemists and Colorists

Booths 63-64-65-66-67-68-69

The A.A.T.C.C. Research Group will have on display various pieces of testing apparatus as follows:

WATER RESISTANCE.—This display will consist of a Spray Rating Tester, a Hydrostatic Pressure Tester and a Rain Tester. The test procedure on each of these instruments will be demonstrated.

LIGHT FASTNESS.—The exhibit will include a Fade-Ometer. Samples and charts will be on display.

WASH FASTNESS.—A Launder-Ometer will be in operation. Many of the results of the present investigation on the importance of abrasion in wash fastness evaluation, as well as the various types of containers developed and tested during this research, will be on display.

DETERGENCY.—The Detergency Comparator will be in operation. Sample pairs of knit tubing, stained with a standard soil, are washed under identical conditions and after rinsing and drying are compared by means of a reflectometer to rate the comparative efficiency of the detergents under test.

FLAMMABILITY.—Equipment for measuring the speed of burning of textiles in general, but more particularly pile fabrics and lightweight fabrics which tend to rapidly burn, will be shown.

FIRE RESISTANCE.—Fire resistance testing equipment as well as samples of commercially treated flame resistant fabrics will be on display.

INSECT PEST DETERRENTS.—Equipment used in testing the efficiency of insect pest deterrents, a life-cycle cabinet in which uniform conditions of temperature and humidity are maintained, will be on display.

PERSPIRATION RESISTANCE.—Methods of testing the fastness of dyed textiles to the effects of perspiration will be demonstrated. The new and improved Plate Tester will be on display.

CROCKING-COLOR TRANSFERENCE.—Various types of Crockmeters and the Color Transference Chart, used in evaluating crocking stains, will be on display.

ATMOSPHERIC GASES.—Apparatus and Standards used to measure the fading effects of atmospheric gases on dyed cellulose acetate will be shown.

In Attendance: G. J. Mandikos, H. E. Glidden, E. P. Johnstone and G. R. Thompson of the Lowell Staff as well as various members of the Exhibits Committee will be on hand during the Convention to explain the working of various pieces of equipment.

American Dyestuff Reporter

One Madison Avenue, New York 10, N. Y.
Booth No. 35

Official publication of the Proceedings of the American Association of Textile Chemists and Colorists.

In attendance: Norman A. Johnson, Myron D. Reeser, Herbert A. Stauderman and Charles A. Whitehead.

American Viscose Corporation

Marcus Hook, Pa.
Booth No. 49

The exhibit is being prepared by the A.V.C. Textile Research Department to feature subjects of particular interest to the dyeing and finishing industry, such as:

1. A.V.C. development for rayon fabric stabilization.
2. A.V.C. development of presetting machine for tricot knit fabrics.
3. Rayon cake dyeing.
4. A.V.C. recommendations for rayon skein dyeing.
5. Special dye application for piece goods.
6. Display of A.V.C. Textile Chemicals that are available to the trade for textile processing.

In attendance: J. A. Woodruff, L. L. Walmsley, I. H. Welch, J. Sands, H. A. Clark, Jr. and A. N. Tingley.

Armed Services Display

Booth Nos. 19 to 27

This effort is a coordination of the Services so as to present a display of uniformity in pattern and theme. The Army will have five of the booths (or its equivalent) and the Navy four (including the Marine Corps).

The Navy's exhibit will point up research and development activities of interest to the textile finishing, dyeing and wet processing industry. The following displays are tentatively planned subject to the approval of the Exhibit Committee:

1. *Improved color fastness of work clothing.* Vat dyed denim and chambray compared with indigo dyeings.
2. *Aging of Cotton fabrics.* A graphic study of the effects of weather exposure, effects of elimination of sunlight, subsequent deterioration in storage, and atmospheric pollution and deterioration.
3. *The Adaptation of Rain Testers* (showing an experimental adaptation of the Suter hydrostatic tester to the A.A.T.C.C. rain-tester with a new nozzle for improved control of water flow, rain pattern and reproducibility of test results.
4. *Synthetic Fur.* Samples of wolverine and other furs commonly used in very cold climates but in short supply compared to an experimental "synthetic fur" with a cotton back and short and guard hairs made of filament nylon.

In attendance: (Navy) Lt. Comdr. L. D. Wornom, Technical Director, T. J. Seery, Director of Development, P. Zinna, Chief Technologist for Inspection, G. Higginbottom, Chemist, and C. Degliaberti, Textile Technologist.

The Army proposes to exhibit fabrics, charts, and photographs illustrative of Quartermaster Corps Research on dyeing, color fastness, shrink resistance, and other allied work. It is expected that the new Stoll Universal Wear Tester and the Barren Land Tent will be demonstrated.

In attendance: (Army) The display will be under the general direction of Dr. S. J. Kennedy, Research Director of the Textile, Clothing and Footwear Section.

Arthur H. Thomas Company

West Washington Square, Philadelphia 5, Pa.
Booth No. 38

Featured at this exhibit will be the Beckman Spectrophoto-

meters, Beckman pH Meters, Stormer Viscosimeter, Stainless Steel Beakers and Dye Pots.

In attendance: A. E. Allgrunn, Technical Service, and J. F. Godwin, Sales Representative.

Atlas Electrical Devices Co., Inc.

361 West Superior St., Chicago 10, Illinois
Booth No. 70

On display will be the Fade-Ometer, the standard instrument for determining light fastness, and the Launder-Ometer, the official machine of the A.A.T.C.C. for fastness to washing tests. Featured with these latest models will be the new metal specimen containers for the Launder-Ometer which improve the accuracy of test results as well as reduce the time required to complete the test.

An exhibit of tested specimens will illustrate the effect of the various factors of fading such as light intensity, temperature and humidity with information on how any operator can improve the accuracy of tests conducted in his Fade-Ometer.

In attendance: J. E. Norton, Leo I. Monaghan and Fred Schlayer.

Brabender Corporation

Rochelle Park, New Jersey
Booth No. 30

H. W. Butterworth & Sons Company

Philadelphia 25, Pa.
Booth Nos. 3 & 4

The following model equipment will be displayed: Becco & Du Pont "J" Boxes, Bullet Pad, Squeezer-Saturator, New Compartment Machine and Junior Bleaching Unit. No mill size equipment will be exhibited.

In attendance: DeHaven Butterworth, Sr., Edward S. Pierce, John H. S. Spencer, H. W. Butterworth, Jr., Wallace Taylor and J. Hill Zahn.

Calco Chemical Division American Cyanamid Company

Bound Brook, N. J.
Booth Nos. 52 and 55

This will be a colorful display setting forth Calco's program for marketing dyes to the textile industry. The exhibit includes research and application equipment which simulates actual mill operation. A brochure especially prepared for the Convention states that Calco's application research facilities coupled with the practical experience of Calco Field Service men make possible the unique service which the company renders to the textile industry.

J. Pfister, Manager of the Dyestuff Department, announces that a full representation of the Sales and Technical Service organization will be in attendance.

In attendance: Main Office—J. L. Naylor, Assistant Manager of the Dyestuff Department, F. L. Pepper, J. R. Burkett, G. S. Thomson; Southern Territory—J. E. Moore, Manager, J. A. Franklin, J. M. Smith, E. G. Walker, M. L. Kirby, J. N. Grant, M. A. Stough, W. T. McWhorter; Metropolitan Territory—Paul J. Luck, Manager, C. MacKenzie, G. A. Jonic, H. E. Mongovan, J. H. Derry, L. I. Fidell, P. W. Pursell; New England Territory—A. H. Sampson, Manager, R. P. Wood, M. P. Graham, R. C. Morrison; Philadelphia Territory—James Dixon, Manager, Thomas J. Scanlon, J. S. Rhodes, A. C. Anderson, G. H. Detweiler, J. E. Conway; Chicago Territory—Samuel Klein, Manager, George Chabot; Technical Service—R. D. Greene, O. W. Clark, E. J. Glaeser, S. J. Luscian, H. E. Millson; Application Research—H. R. McCleary, C. Zimmerman, A. Klein, S. Mooradian, Dr. R. H. Kienle, Director of Application Research, Dr. A. L. Peiker, Associate Director of Application Research; Sales Promotion—E. K. Hunt, Advertising Manager, G. B. Meynell, Assistant Advertising Manager; Montreal, Canada—D. L. Griswold, Manager, J. O. Smith, P. A. Audet; Process Development—S. Whiting, A. Wintringham, Dr. T. S. Leary.

Calgon, Inc.

323 Fourth Ave., Pittsburgh, Pa.
Booth No. 17

The exhibit will consist of a demonstration of the Threshold Treatment of water with Calgon to inhibit the pickup of iron through corrosion of the water system. Treatment of textile mill supply waters with 2-5 ppm. of Calgon will inhibit corrosion of the pipe lines or prevent iron present in well waters from causing trouble in the textile processes, such as dyeing and bleaching. The display will also show the effect of iron in water on dyed yarn, and after correction by Threshold Treatment with Calgon.

In attendance: Eric T. Laurin, Pittsburgh; Garner C. Parr, Philadelphia and John A. Adams, also of Philadelphia.

Ciba Company, Incorporated

Greenwich and Morton Sts., New York 14, N. Y.
Booth No. 1

The exhibit will show practical dyeings and prints made with Ciba products. Featured will be dyeings of Coprantine Colors, Ciba's new range of dyestuffs which provide both wash and light fastness on cotton and rayon.

Also included will be fast-to-light printed drapery fabrics of cotton and rayon made exclusively with Ciba's Chlorantine FastColors, as well as high grade woolens dyed with Neolans.

An added feature will show practical results on various fabrics of Ciba's fluorescent bleaching agents, Uvitex RS cotton, viscose and bemberg rayons, and Uvitex WS for wool, acetate rayon and nylon.

In attendance: E. D. Lind, M. G. Stern, P. Ward, G. Battye, G. Wiseman, T. Nuckolls, E. Caswell, J. P. Bauer and S. I. Parker.

Ebco Manufacturing Co.

401 West Town Street, Columbus 8, Ohio
Booth No. 62

Ebco will exhibit "Oasis" Electric water coolers.

In attendance: Watt Giller of Columbus, Ohio and Jos. R. Siegert, Phila., Pa.

E. F. Houghton & Co.

303 West Lehigh Avenue, Philadelphia 33, Pa.

Booth No. 51

Samples of materials and work treated with the company's various textile processing products will be displayed. These include surface active agents, both detergents and wetting agents, under the respective brands names of Cerfak and Surfax.

Also on display will be samples of fabrics treated with Resonet, a thermo-plastic resin type of finish developed during the past year.

Self-emulsifying wool oils will also be featured.

In attendance: Dr. H. B. Walker, Manager of Product Development; C. B. Kinney, Manager, Textile Sales Department; O. H. McClay, Textile Sales Representative; H. E. Peterson, Textile Sales Representative, and J. R. Clendenning, Sales Manager, Eastern Division South.

E. I. du Pont de Nemours & Company

Wilmington 98, Delaware

Booth Nos. 5 & 6

Attention will be directed to the company's regular Atlantic City exhibit on the Steel Pier, such a point having been maintained by the company for over thirty years. The convention exhibit will portray technical advancements during the past year or so in connection with the company's products as they relate to the textile industry. Both the space in the hotel proper and at the established exhibit will be in charge of various personnel continuously during the convention period.

In attendance: Field men and members of the technical staff.

Ellen H. Richards Institute

Pennsylvania State College, State College, Pa.

Booth No. 61

This exhibit will feature a series of kodachrome slides dealing with research in:

1. Color Fastness
2. Durability
3. Detergency
4. Consumer Wear Tests

In attendance: George Wham, Joseph Sherrill, Miss Eileen Casey and other staff members.

Fairchild Publications

7 East 12th Street, New York 3, N. Y.

Booth No. 12

Trade publications.

Fashion Institute of Technology

225 West 24th Street, New York 11, N. Y.

Booth No. 56

Geigy Company, Inc.

89-91 Barclay Street, New York 8, N. Y.

Booth No. 13

Featured at this exhibit will be Mitin F F Conc, the mothproofing agent. Shown will be an actual running series of biological tests with carpet beetle larvae and moth larvae on various fabrics with tests in progress for one week, two weeks and three weeks.

Also to be shown at this exhibit will be the Development of Chrome Dyes on Nylon by Steaming Under Pressure (U. S. P. 2,421,131). Examples of nylon in various forms will be shown along with fastness tests including the fastness to boiling soap possible with this method. A large-sized drawing of a sample package machine showing changes necessary to accommodate this process will be on display.

In attendance: Many of the members of Geigy's technical staff will be present.

General Dyestuff Corporation

435 Hudson St., New York 14, N. Y.

Booth No. 18

This company will have on exhibition material and exhibits showing new and improved processes for fast color work.

In attendance: J. Robert Bonnar, Dr. Herman E. Hager, John H. Hennessey, Dr. Hans Luttringhaus, Otto F. Habel, L. S. Thompson, Paul J. Choquette and Emil Hansen.

General Electric Company

1 River Road, Schenectady 5, N. Y.

Booth No. 34

This exhibit, housed in a space 15 ft. x 9 ft., will have as its chief feature the Recording Spectrophotometer. It is a precision laboratory instrument which automatically and accurately measures and records color. Color experts will make permanent color records for visitors before their eyes, and visitors will be invited to bing their color problems with them to the booth. Mr. John Thompson will be on hand to greet visitors and to explain and supervise this portion of the exhibit.

Also shown will be the company's three variable-speed drives. These drives will be in operation, and visitors will be able to control the speeds of the equipment themselves.

Along with the variable-speed drives, the new a-c and d-c control equipment for dyehouse and finishing operations will be introduced. Several wall murals will be displayed to illustrate G-E motors and control in actual factory operation.

In attendance: G. W. Knapp, R. J. Demartini, J. W. Holt, J. D. Gaughan, J. J. Murphy, F. C. Smith, W. O. Fitchett and D. L. Healy.

Hart-Moisture-Meters
1948 Grand Central Terminal, New York, N. Y.

Booth No. 41

Moisture content indicators will be on display.
In attendance: W. E. Bonnett and R. S. Hart.

Institute of Textile Technology
Charlottesville, Virginia

Booth No. 57

Instrument Development Laboratories, Inc.
163 Highland Ave., Needham Heights 94, Mass.

Booth No. 53

The exhibit will consist of a demonstration of the company's Color Eye instrument for precision color measurement and matching. Color Eye is an extremely versatile instrument for the measurement of all types of colored materials and surfaces. Representatives will be on hand equipped to measure a wide variety of samples that any member of the A.A.T.C.C. may wish to bring. Insofar as time will permit the company will be glad to allow any visitors to operate the equipment themselves.

In attendance: A. R. Macdonald and George P. Bentley.

Jacques Wolf & Co.
Passaic, New Jersey

Booth No. 44

The following products will be exhibited at this display: Apasol W1345—a completely sulfonated ester of a high molecular weight alcohol for use in desizing, kier boiling, pasting dyestuffs, dyeing, soaping, etc., said to be particularly effective in the dispersion of acetate printing colors; Emulsifiers (nonionic and anionic types)—for use in producing soluble oils and greases, DDT and other insecticidal emulsions, degreasing compounds, etc.; Gum Arabic—cleaned amber sorts, granular powder; Gum Tragacanth—flakes, granular, powder, for use wherever a thickening agent is necessary; Irish Moss—natural, half-bleached, bleached, fine ground powder for use as an inexpensive thickener for pharmaceuticals, water suspending agent for pigments, and as a textile finishing agent; Lupogum—for use as a thickening agent for textile printing and finishing and as a thickening agent for food and pharmaceutical products; Hydrosulfite of Soda—for use as a reducing agent for vat colors, stripping agent, reducing agent in the manufacture of pharmaceuticals and other compounds, and as a bleaching agent in certain industries; Hydrosulfite AWC—for application printing of vat colors, discharge printing on all textiles, and a stripping agent on woolens, acetates and other fabrics; Hydrozin—for discharge printing on acetate dyed grounds and for stripping certain colors on wool, acetate and nylon; Oratol L-48 for scouring rayons, acetates, wool, and mixed fabrics previous to dyeing and as an addition to the dyebath for penetrating and leveling action; Lomar PW—a dispersing agent for insoluble pigments and for slime and pitch control in paper manufacture; Parnol—for wetting and detergency; Amprozyme—for textile desizing, and general starch and protein solubilization; Dileine—an antifume agent for acetate colors; Meleine—to prevent atmospheric gas fading; Monopole Oil—a double sulfonated castor oil for use in bleaching, dyeing, finishing as well as a dispersant for dye solutions for the printer and extensive use in other industries for emulsification of various oils, solvents, etc.; Superclear—a prepared gum solution for machine printing, screen printing and hand-painting processes; Wetsit Conc.—a wetting agent of the alkyl aryl type.

In attendance: G. J. Desmond, Secretary, George W. Apsey, M. F. Costello, E. G. Grady, Charles Hagelgans, G. W. Searell and C. E. Wright.

John Campbell & Company, Inc.
75 Hudson Street, New York, N. Y.

Booth No. 36

This exhibit will feature the Camel line of dyestuffs.

In attendance: A. W. Edwards, A. R. Lundquist and A. E. Raimo.

Lowell Textile Institute
Lowell, Mass.

Booth No. 58

The exhibit will present the general educational program of the Lowell Textile Institute with emphasis on the general expansion program. Such data will be available through printed pamphlets and photographs of new buildings.

In attendance: Professor John Skinkle and Professor Elmer Fickett.

Macbeth Corporation
227 West 17th Street, New York 11, N. Y.

Booth No. 54

On display will be the following instruments:

Model A pH Meter—a portable, constant and direct reading instrument.

Model T pH Meter—in addition to giving pH readings, this instrument also gives titration readings directly.

Color Matching Skylight (BX826).

Color Densitometer—with reflector attachments.

In attendance: Norman Macbeth and F. F. Phillips.

Miller Motor Company
4027-33 N. Kedzie Avenue, Chicago 18, Ill.

Booth Nos. 31 and 33

This exhibit will feature displays of Air and Hydraulic Cylinders, consisting of Air and Hydraulic cylinders showing individual cylinders in actual operation, and including such demonstrations as an Air cylinder operating under water, leak-proof testing, operating a Miller 2000 psi Hydraulic cylinder at 10,000 psi, raising a 150 No. piston of a Miller Air cylinder

merely by blowing one's breath into the cylinder part—to indicate low friction, Miller Boosters in operation, hydraulically controlled air power and other operating displays.

In attendance: J. L. Modrich, Sales Mgr.; R. H. Grand, Sales Engineer; W. Gibson, Sales Engineer; and L. L. Menken, Advertising Manager.

Monsanto Chemical Company
Textile Chemical Dep't.

Chemical Lane, Everett, Mass.

Booth No. 28

A variety of fabrics sized with the company's synthetic size, Stymer, will be shown along with a demonstration of the long bath life of urea and melamine resin solutions when their Catalyst AC is used. A range of cottons and blends finished with Resloom will also be shown.

In attendance: G. O. Linberg, J. W. Stewart, Charles Bishop, Walter Kulow, Stanley Brown and others.

National Aniline Division
Allied Chemical and Dye Corporation

40 Rector St., New York 6, N. Y.

Booth Nos. 8 and 9

The main theme of this exhibit will be the wide display and, wherever possible, the unique application of National dyes:

1. In industrial fields.
2. By the Food, Drug, & Cosmetic Industries.
3. By the Medical Profession through the use of the company's biological stains and indicators.

In attendance: (Philadelphia Territory)—Robert Robertson, George Bond, Roland MacDonald, Ferris Mitchell, Robert Wilson, and Edward Beigbeder. (New York Territory)—C. C. Knights, Robert F. Holoch. (Charlotte Territory)—Wyss L. Barker, J. Reese Daniel. (Chicago Territory)—E. W. Camp. (Boston Territory)—A. E. Sampson, H. J. Daigneault, W. R. Moorehouse. (Providence Territory)—E. J. Allard. (Technicians)—Lawrence H. Flett, Dr. O. M. Morgan, William A. Holst, K. H. Ferber, George Bishop, and William B. Coffin.

National Milling & Chemical Co.

4601 Nixon Street, Philadelphia 27, Pa.

Booth No. 32

Products of the company's manufacture will be exhibited such as industrial soaps of various specifications and physical forms, plus detergents manufactured from products other than soap.

In attendance: L. M. Rosenberger, John J. Tomalino and Russell Harris.

New Bedford Textile Institute

New Bedford, Mass.

Booth No. 60

A general display of the products of endeavor at the Institute will feature the New Bedford exhibit. Such a display will consist of greige and finished knitted and woven fabric products of the school's Knitting and Weaving Departments, student prepared dyes, and dyed and/or printed fabrics processed in the Chemistry and Dyeing Department.

In attendance: Francis Tripp and Edmund J. Dupre.

Philadelphia Textile Institute

320 South Broad Street, Philadelphia 2, Pa.

Booth No. 59

This display will include a series of fabrics which typifies the work that P.T.I. students produce in the school's laboratory. The engineering principles that are taught in the classroom are applied in the laboratory and these fabrics are the outcome.

In addition, some of the work produced in the color classes will be displayed along with examples of some of the visual illusions that make the color problem so interesting yet difficult.

Some space will also be devoted to present facts about the new building which is now practically complete.

The Reliance Electric & Engineering Company

19 E. Lancaster Ave., Ardmore, Pa.

Booths 10 and 11

The following products will be exhibited:

Adjustable Speed Drive.
Compensator's Dancer Control.
Chemical Motor.
Gearmotor.
Tachometer.

In attendance: K. S. Lord, R. J. Overstreet, N. R. Smith, E. H. Towers and E. G. Orahood.

Rohm & Haas Company
Textile Chemicals Dept.

Washington Square, Philadelphia 5, Pa.

Booth No. 40

This exhibit will feature the following new developments:

Rhozyme LA—A new liquid diastatic enzyme concentrate for textile desizing. Combines the recognized economy of a liquid enzyme with unusual stability at high temperatures, affording thorough and uniform desizing in the fastest possible time.

Rhonite Rl—Entirely new type of chemical for stabilization and crease resistance. The stabilization to be obtained by it is distinguished by its resistance to prolonged washing and there is no damage from chlorine pickup in laundering. Application to cotton and rayon is generally by conventional methods.

Polyacrylic Acid—Entirely new product designed for sizing nylon. The product is a clear, somewhat viscous, soluble liquid. It may be used for sizing either filament or spun nylon for weaving or in the throwing operation to prepare nylon for tricot knitting.

In attendance: Herbert Eastwood, D. D. Gagliardi, A. Kempton Haynes, Charles L. Kloss, Russell G. Lawrence, Heyward F. Lawton, A. C. Nuessle, Jack M. Schandler, T. Griffith Sloan, Wm. J. Thackston, Jr., Robert G. Thomas and Herbert S. Travis.

Sandoz Chemical Works, Inc.

61-63 Van Dam Street, New York 13, N. Y.

Booth No. 42

The feature of this exhibit will be a display of fabrics and garments dyed by the Sandoz Cuprofix method which uses selected direct colors, after which they are given a simple aftertreatment with Cuprofix to result in excellent fastness qualities in washing, perspiration, hot and cold water, hot wet pressing and light. It may be seen that the beneficial effects of resins when applied to rayons has been greatly increased by the addition of Cuprofix to the resin bath. Not only are the colors very fast, but the efficiency of the entire operation is greatly increased.

There will also be an exhibit of woolen and worsted fabrics and other materials dyed with the famous line of Metomega Chrome and Alizarine Milling Colors.

In attendance: C. H. A. Schmitt, R. Lindenmaier, Morris Klein, Herman L. Schwarz and Walter Taylor.

Scholler Brothers, Inc.

Collins and Westmoreland Streets, Philadelphia 34, Pa.

Booth No. 39

This exhibit will consist of product samples of some materials manufactured by Scholler Brothers, as well as samples of hosiery, knit goods, piece goods and yarns, treated with same. The "Schollerize" process for wool shrinkage will be featured.

In attendance: E. S. Atkinson, J. F. Noble, L. M. Boyd, C. W. Jones and F. C. Scholler.

Shelton Looms
Sidney Blumenthal & Co., Inc.

1 Park Ave., New York 16, N. Y.

Booth No. 47

This display will be of upholstery fabrics dyed in matched Kleersheen Colors. Photo-micrographs, showing construction of pile fabrics and characteristics of fibers used in pile fabrics, will also be exhibited.

In attendance: R. W. Canavan, Supt. Finishing and Dyeing, W. W. Bayley, Director of Research, H. H. Taylor, Ass't. Director of Research and S. V. Vaniotis, in charge of Color Laboratory.

Smith, Drum & Company

432 West Allegheny Ave., Philadelphia 33, Pa.

Booth Nos. 14 & 15

This display will include sample laboratory machines as well as samples of dyed yarns and fabrics.

In attendance: Harry S. Drum, William C. Dodson, Albert P. March, John Patton, Robert N. Smith, Perry Parrott and Joe Ballentine.

Swift & Company

Union Stock Yards, Chicago 9, Ill.

Booth No. 2

The exhibit will include a graphic display of the new Solexol Decolorizing Unit in operation at Swift & Company's Technical Products Plant in Hammond, Indiana. It will also include a display of products now being offered to the textile and textile chemical trades.

In attendance: George F. Long, Chicago, Ill. and Joseph P. Rulli, Philadelphia, Pa.

Textile Bag & Specialties Co.

Fourth and Caldwell Sts., Chester, Pa.

Booth No. 16

Among the products manufactured by the company that will be exhibited will be dyeing bags made from cotton muslin, Orlon, and Fiber V; also, mesh dyeing bags, cotton wrappers for nylon hosiery, and heavy duty canvas shipping bags.

In attendance: C. E. Anderson, William Jefferies and V. T. Hartquist.

Textile World

330 West 42nd Street, New York 18, N. Y.

Booth No. 37

Trade publication.

Venango Engineering Co.

G & Lycoming Streets, Philadelphia 24, Pa.

Booth No. 46

On display will be textile dyeing equipment.

In attendance: A. Robertson, C. Harry McCandless, and E. C. Deuter.

Virginia Smelting Company

West Norfolk, Virginia

Booth Nos. 48 and 50

This exhibit will employ a background with a total width of 20 feet. An artist will be employed to do portrait work and two items of equipment for applying the company's chemicals to process work will be shown.

In attendance: W. F. Luckenbach, E. H. Keys, J. Bracken Johnson, J. R. Eldridge, A. K. Scribner, Jr., H. B. Peterson, H. B. Channon and F. W. Binns.

Wiltex, Inc.

1340 East 222nd St., Cleveland 17, Ohio

Booth No. 29

This exhibit will consist of three or four different types of aluminum cloth rolls with the rough sandblasted finish. There will also be a few cutaway sections of the rolls and one revolving roll.

In attendance: William A. O'Connell and Kenneth L. O'Connell.

Abstracts of

TECHNICAL PAPERS

To be Presented at Atlantic City Convention

"Bleaching of Cotton: A Proposed Continuous Hypochlorite Bleaching Process"

L. P. SEYB and J. L. FOSTER
Diamond Alkali Company

A PROCESS is proposed for bleaching cotton goods by continuous methods utilizing essentially caustic soda and sodium hypochlorite solutions. Cotton goods which have been singed are pretreated by impregnating with a sodium hypochlorite solution having a pH preferably between 8 and 9 and an available chlorine concentration between 1 and 4 grams per liter. After squeezing to about 100% solution content the goods are allowed to steep one-half hour. A thorough rinsing is followed by saturation of the goods with a 0.5%-1.0% solution of caustic soda followed by steaming for a period of 20-30 minutes. This is followed by rinsing, saturation of the goods with a 3-4% solution of caustic soda and steaming for another period of 20-30 minutes. The double caustic saturation—steaming operation for the indicated period of time is preferable to a single caustic saturation and steaming for one hour. The goods are then treated with a sodium hypochlorite solution using the same conditions as that described for the pretreating operation. After rinsing and the usual finishing steps a fabric is obtained having better whiteness and tensile strength than is usually obtained in commercial bleacheries using classical hypochlorite bleach methods.

"Applications of the Automatic Tristimulus Integrator to Textile Mill Practice"

H. R. DAVIDSON AND I. H. GODLOVE
Central Research Laboratory, General Aniline and Film Corp.

USE of the GAF-Librascope Automatic Tristimulus Integrator with the General Electric Recording Spectrophotometer permits tristimulus measurement and description of color with a precision equal to that of the eye. When a trained colorist is available for routine production testing, his speed makes him superior to the instruments, but there are special fields of application in which the instruments can be of assistance to the colorist. Some of these are in specification of standards and standard color tolerances, evaluation of levelness, dyer's brightness and fading, and in the solution of dye shading problems. Recently obtained data on wool dyeings and shirt bodies and collars indicate the limits of acceptible color matches in terms of tristimulus values for particular applications. Numerical data on the levelness of wool dyeings illustrate the degrees of unlevelness encountered in practice and the effect of leveling agents. The relative uniformity of American, British and German fastness standards has been established by means of measurement with the instruments. Dye mixture experiments show that several methods of shading dye batches in production and use can be employed after tristimulus values have been obtained.

"Problems in Ageing Textile Prints and Their Control"

PAUL J. CHOQUETTE AND OTTO F. HABEL
General Dyestuff Corporation

THIS paper reviews some of the variables which have long been recognized as causing trouble in the printing of vat colors due to the ageing or steaming operation. The results obtained on a pilot plant ager by F. Fahnoe of the Central Research Laboratory, General Aniline & Film Corporation, Easton, Pennsylvania are described. This work gives quantitative data on the effects of moisture content of the cloth, print temperatures, air content within the ager, quality of steam, steam flow rate, etc. on the color value of vat prints. Control of print temperature is obtained by means of a water spray introduced within the ager. Suggested instrument control is outlined.

The significance of this pilot plant work in terms of present day methods is outlined with a discussion of results obtained in the ager as well as by the pad-steaming techniques. The effects of print thickener and reasons for various results obtained are summarized.

"The Catalytic Oxidation and Degradation of Cellulose"

W. GEORGE PARKS
Rhode Island State College

THE catalytic decomposition of cellulosic material and the various possible flame-retardant reagents on the reactions involved were investigated. The rate and mechanism of the oxidation of cellulose were studied on the basis of the products of the reaction in the presence of various catalytic substances. The volume of carbon dioxide, the value of carbon monoxide, and the quantity and composition of the tarry products formed were determined.

In the experiments completed to determine the influence of various chemical compounds in the oxidation of char, no group of compounds exhibited satisfactory glow-proofing properties. The effect of various catalysts was tested on the formation of tars. The carbonate and chloride of lithium decreased the tar formation. Sodium carbonate and chloride were also effective. Afterglow was observed with all catalysts except the phosphates, cerium sulfate and chromic, antimony and zinc chlorides.

"Vat Dyeing: Importance of Initial Dyeing Rate"

O. W. CLARK AND H. R. McLEARY
Calco Chemical Division, American Cyanamid Co.

A KNOWLEDGE of the exhaust behavior of individual dyes assists in developing formulae containing dyes with known and similar properties and promotes trouble-free dyehouse operation. Certain exhaust properties of several vat dyes have been determined from Dyeometer dyeings on cotton cloth. Direct inspection of dyeing curves yields useful data such as the exhaust value at "equilibrium" or at some intermediate dyeing time. Another important characteristic of the dyeing curve is the rate of exhaustion in the first few seconds of dyeing. By graphical and mathematical procedures, this "Initial Dyeing Rate" (IDR), expressed as percent of the total dye concentration exhausted per minute at the very beginning of dyeing, has been calculated for each Dyeometer dyeing. Continuous reduced dyeing experiments have been made in a laboratory unit using mixtures of dyes having various IDR values. Results show that IDR's are more useful than equilibrium exhaust data when choosing dyes which will work well together. IDR data are believed to be valuable in certain other vat dyeing processes as well as in continuous reduced dyeing.

IDR data would be useful also in the application of other classes of dyes by certain processes.

"Investigations of Anticrease Treatments for Cotton"

R. F. NICKERSON
Monsanto Chemical Company

TECHNICAL problems involved in the application of crease-resistant finishes to cotton fabrics are reviewed and a brief survey of the technical history is presented. The results of a sustained laboratory study of the effects of thermosetting resins on cotton are described and an attempt is made to assess the importance of the various application factors. The implications of the results and their bearing on the future of the general problem are discussed.

"The Chemical Reactivity of Wool in Relation to Antishrink Processes"

P. A. ALEXANDER, PH.D., D.SC., D.I.C., A.R.E.S.
Woolsey, Ltd., England

THE structure of wool and the theory of felting is considered briefly. It is shown that (1) oxidation of the disulfide alone is not sufficient to produce unshrinkability except after severe attack; and (2) the disulfide groups in wool can be divided into two fractions varying greatly in their reactivity towards oxidizing agents. The chemical basis of the "non-shrink" process employing a mixture of hypochlorite and permanganate is discussed in relation to the above facts. The rate determining step of oxidation from aqueous solution can be either diffusion through a film of liquid or diffusion through the fiber. Conditions where fiber diffusion is operative will lead to the most even processing under bulk conditions.

Synopsis of Lecture

1. Morphology of wool.
2. Chemical structure of wool.
3. The causes of felting.
4. Which groups have to be attacked to produce non-felting wool.
5. Reactivity of disulfide bond.
6. Importance of kinetic considerations for anti-shrink processes.

"The Dyeing of "Orlon" Acrylic Fiber and Its Use in Colored Textiles"

P. L. MEUNIER
E. I. du Pont de Nemours & Co., Inc.

"ORLON" acrylic fiber is considerably more difficult to dye than hydrophilic fibers. At temperatures under 180°F., "Orlon" is unstained by all dyes and even at raised temperatures only three classes of colors exhibit reasonable affinity: the acetate, basic, and vat dyes. At 212°F., the acetate and basic dyes are absorbed in such small quantities that only pastel shades are obtainable. Swelling of the fiber with steam under pressure and the use of dye bath assistants or "carriers" such as aromatic amines or phenols makes it possible to apply heavier shades. Under pressure, at temperatures in the range 212-275°F., in aqueous dyebaths the exhaustion efficiency is improved but is still of a low order, producing shades of medium depth. The "Thermosol" method of dyeing which employs dry heat as a fixing medium promises to provide the practical means for obtaining medium shades.

Vat dyes of the thioindigoid and indigoid classes have considerable affinity for "Orlon," giving medium shades at the boil from baths containing a high concentration of potassium carbonate. Complete penetration of the fiber is attained only at temperatures above 212°F. under pressure.

There are two points of particular interest regarding the fastness properties of dyed "Orlon." First, the acetate dyes exhibit phenomenal washing fastness, and, second, the vat colors, notoriously poor in fastness to light in certain shades on nylon, exhibit very good light fastness on "Orlon."

"Orlon" has many possibilities for use as a decorative fiber in Chromacyl and chrome-dyed worsted and vat-dyed cotton fabrics. In this respect it appears far more versatile than either cellulose acetate or pure silk.

"Some Textile Detergency Research at the Institute of Textile Technology"

WILLIAM P. UTERMOHLEN, JR.
Institute of Textile Technology

TEXTILE detergency research at the Institute of Textile Technology was initiated to review and improve the methods of laboratory detergency work and the interpretations of the results of such work with cotton cloth. This work has resulted in new knowledge of the relation of apparent soiling and cleaning to the true soil content, and in improvements in methods of soiling and storing cloth and in measuring the extent of soil removal by washing.

The improved techniques have been applied to the problem of treating cotton cloth so as to confer upon it superior resistance to soiling or superior ability to be cleaned by a washing process. The program on this problem has been sponsored by the Research and Marketing Act Administration of The U. S. Department of Agriculture. Among the treatments which have been applied to cotton cloth for this purpose are: various amounts of moisture; various amounts of starch, and cationic and anionic softening agents; durable and non-durable hydrophobic finishes; prepolymerized vinyl emulsion polymers; urea-formaldehyde condensates polymerized in the cloth; and several treatments, such as partial acetylation, producing chemical alterations in the cotton cellulose. Cloths so treated were soiled with several kinds of pigment, from liquid dispersions or in a dry state, and washed.

The effects of these various treatments upon the ease of soiling, and of soil removal are presented, and some suggestions for further work on this problem are discussed.

"Modification of Fiber and Fabric Properties by Wrinkleproofing and Stabilizing Agents"

D. D. GAGLIARDI AND A. C. NUESSLE
Research Laboratories, Rohm & Haas Co.

THE chemical, physical and mechanical properties of cellulose fiber and fabrics may be altered to various degrees by treatment with a variety of compounds whose action on cellulose appears to involve either chemical or physical cross-linking of the molecular chains. Studies conducted with urea-formaldehyde, melamine-formaldehyde, ketone-formaldehyde, glyoxal, formaldehyde and numerous experimental products have shown that all of these materials reduce the swelling of fibers, change their dyeing properties, increase their elastic modulus and elastic recovery, reduce tear strength of fabrics, and decrease abrasion resistance. The reduction in the overall strength properties of fabrics is shown to be related to the decrease in fiber extensibility and is not caused by either hydrolytic or oxidative degradation of the cellulose. The extent of this reduction was found to be related solely to the degree of improvement in stabilization and wrinkle resistance regardless of whether acid, neutral or alkaline catalysts are employed and regardless of temperature of cure. Mild catalysts or mild curing conditions produce less reduction in tear and abrasion resistance simply because less of the applied material is reacted and less improvement in stabilization and wrinkle resistance is produced. With the exception of formaldehyde and glyoxal, the reactions which take place with formaldehyde resins or cross-linking reagents were found to be reversible, so that on acid hydrolysis of the reaction products, the properties of the original cellulose are restored.

"A Survey of Recent Developments in Wet Processing of Full Fashioned Hosiery"

HAROLD L. DE TURCK
Berkshire Knitting Mills

THE paper will confine itself to the following subjects: (a) Review of multifilament nylon hosiery; (b) 15 denier monofilament nylon hosiery; (c) 20 denier monofilament nylon hosiery; d) finishes. The paper will deal with such problems as packing, scouring, dyeing assistants, dyestuffs in the processing of nylon full-fashioned hosiery. A short discussion on present day finishes used in wet processing will conclude the paper.

"Evaluation of Wetting Agents"

LEONARD SHAPIRO
Synthron, Inc.

A. Tape Wetting Tests—A modification of the Draves test, employing grey fabric *tape* instead of skeins is described. This method is faster, more convenient, and more precise.

B. Interpretation of Wetting Tests—Calculations show that at equilibrium, a 5-gram skein with 3-gram hook still contains nearly 5 cc. of air. Thus the Draves test measures the time for a definite fraction of the skein to be wet out. The order of effectiveness of wetting agents may be entirely different at the point of *complete* wetting out.

By extrapolation of sinking times for a series of hook weights, the time for *complete* wetting out is calculated and compared with partial wetting out times. Detailed graphs for a number of commercial wetting agents are presented.

"Dyeing of Helidons on Wool"

DR. H. LUTTRINGHAUS
General Dyestuff Corporation, N. Y.

THE Helindons are vat dyestuffs especially suited for application on wool.

Various methods recommended for the dyeing of vat dyestuffs on wool will be discussed. The chemical reactions in the dyeing of wool with vat colors will be explained and it will be shown that the process is different on wool than on cotton. An attempt will be made to show that wool should not be dyed with the usual anthraquinone vat dyestuffs which are in colloidal dispersion, but only with molecular dispersed, or semi-colloidal types. Leuco compounds of vat dyestuffs which are in colloidal dispersion have little affinity for wool. Only if the amount of caustic soda is increased does a dyeing occur through a forced swelling of the fiber. If the swelling is not reversible the wool is damaged and either the tensile strength is diminished or the elasticity is reduced.

A full range of Helindons will be presented consisting of indigoids, thioindigoids, quinone and anthraquinone dyestuffs. Among these types new products will be shown which were not on the market before. All have the desirable properties of dissolving in a minimum amount of alkali and dyeing from a weakly alkaline bath. Practical mill runs carried out on a comparative basis show a much better tensile strength and elongation than can be obtained with chrome dyes.

"The Occurrence of Soluble Wool-Substance as a Result of the Sulfuric Acid Carbonizing Process"

JACKSON BAUER
Fred Whitaker Company

IN the course of the commercial sulfuric acid carbonizing and neutralizing process a loss of wool substance occurs which results in a loss of yield to the processor. The more labile groups in the protein are rendered soluble during the carbonizing process and thus become susceptible to removal during the rinsing and neutralizing processes.

A study has been made of this neutralizing loss on commercially carbonized but unneutralized wools. These wools were analyzed for their acid content, then neutralized in the laboratory and the percentage loss in weight in excess of the acid content was calculated. Results were adjusted for changes in ash and extractibles.

Additional tests were run on wool top samples which were carbonized and neutralized in the laboratory under controlled conditions. These samples, when carbonized, exhibited a gain in weight in proportion to their acid content, but an additional loss was found to occur during neutralizing.

The rinsing and neutralizing baths gave positive tests for protein. Most of the wool substance removed is water soluble and the quantity of this loss may be regarded as another means of measuring degree of damage incurred in a given carbonizing system.

The loss of wool substance is also shown to be a function of certain operating conditions.

"Static Problems in Textile Processing"

D. J. LEHMICKE
E. I. du Pont de Nemours & Company

THIS paper is concerned with the theory and causes of the generation of electrostatic charges on fibers, yarns, and fabrics, the effects caused and methods of prevention.

Abstracts of

INTERSECTIONAL CONTEST PAPERS

To be Presented at Atlantic City Convention

"Factors Influencing Crockfastness of Naphthol Package-Dyed Cotton Yarns"

SOUTH CENTRAL SECTION

IT is now generally recognized by package dyers of cotton yarns that improvement must be made in the crockfastness of most naphthol-dyed yarns to meet the insistence of the knitting trade for a higher level of crockfastness than that generally offered before the war. For instance A. F. Williams, writing in the *American Dyestuff Reporter* in 1934, made the statement ". . . fastness to rubbing of Naphthol AS dyeings has progressed so that today the problem can be considered to have been solved. . .". Since several of the package dyers in the South Central Section have realized keenly that they cannot make this statement with equal confidence today, it was considered that a systematic and scientific study of the factors influencing crockfastness would be an appropriate subject for an Intersectional Contest Paper.

Due to the limitation of time and to the immensity of the field, especially if the whole range of naphthols be considered, it was decided that it would be better to limit the number of dyes studied and to consider as many as possible of the factors involved in a typical dyeing. In line with this, the paper has been limited to a study of 2% dyeings of Naphthol ASSW developed with 2% KB base and 7% RN salt. With each of these two types of dyeings, a study has been made of the following factors influencing crockfastness:

(a) Yarn preparation.
(b) Manner of naphtholation.
(c) Manner of developing.
(d) Soaping.
(e) Softening.

All dyeings were made on 30/2 combed mercerized cotton yarn. Most all the results recorded in this paper have been observed or checked in triplicate; i.e., by each of three cooperating companies. Triplication of work in these cases was considered justified since such a confirmation of results was held to be valuable in a field where so much difference of opinion has at times prevailed.

Yarn Preparation:

Yarn was prepared according to 3 typical conditions as follows:

(1) Simple wet-out.
(2) Thorough scour.
(3) Bleached base.

Crockmeter tests showed that:

(a) Yarn dyed after a thorough scour gave less crocking than yarn dyed after a simple wet-out.

(b) Yarn dyed after a bleached base gave distinctly less crocking than yarn dyed after a thorough scour.

Examination of yarn from different sources failed to show little if any difference in the crock tests after similar preparation.

Uniform winding from package to package is required for uniform results, both in the depth of shade and crockfastness.

Manner of Naphtholation:

Although the work is not yet completed on this phase of the investigation, preliminary results indicate:

(a) Considerable importance should be attached to this operation since the best conditions applicable after this operation will not clear up an improper procedure here.

(b) Naphtholation at a lower temperature than is frequently used gives better color value as well as crockfastness.

(c) Indications are that the amount of salt required to exhaust the naphthol is much lower than has previously been thought required.

(d) Excess salt is to be avoided.

(e) The use of formaldehyde (1% on the weight of the yarn) has little if any effect on either the shade or crockfastness.

Manner of Developing:

The usual precautions followed in making up the base and salt have been found necessary.

Indications have been obtained that the use of a sequestering agent in the developing bath will improve crockfastness. Presumably this works by lowering the amount of color lake formed in the dyebath which filters on to the dye package.

Soaping:

The use of both soap and certain synthetic detergents are being compared, both by themselves and in combination.

The temperature of both the soap baths and the water rinses in between are being studied. The effect of increasing the number of soap baths and rinses is also being studied.

Softening:

The effect upon crocking of both ionic and nonionic types of softeners is being studied. There has been some indication that the cationic type of softeners can be harmful in this respect.

"Practical Tests for Quantitatively Evaluating Dye Characteristics and Dyeing Methods"

NORTHERN NEW ENGLAND SECTION

IT is necessary very often to compare one dye with another, tone dyeing with another, or the effect of an addition to the dyebath on the dyeing procedure. In the past this has been done by trial and a visual examination of the result, but unless very large lots of material are dyed no accurate estimation of such qualities as levelness can be obtained; also, such properties as exhaustion and the behavior of the dyeing process can be only visually observed and very roughly estimated.

By the use of four rather simple tests it is possible to completely evaluate the behavior of a dye in a dyebath and from the quantitative results obtained to predict how they behave. These tests are for exhaustion, levelling, penetration, and "strike". Each one of these may be quantitatively evaluated, preferably by the use of the spectrophotometer, but also by the use of any form of colorimeter, or even by simple visual examination. Examples of each of these tests, the method of conducting the test, and several examples of a completed analysis of a given dyeing situation are presented.

"Acid Colloids of Resins"

RHODE ISLAND SECTION

WHILE it is true that acid colloids of melamine resins have been of considerable importance during the past few years for the production of wet strength paper, the possibilities of this type of product for textile finishing have been relatively unexpected. Most of the work to date in the field of textile finishes has been carried out with the acetic acid colloid of the methylated trimethylol melamine, more particularly as an application to wool fabrics where shrinkage control and a soft handle are important requisites.

The present study has included the investigation of practically all of the available types of melamine formaldehyde and urea formaldehyde resins, both alkylated and unalkylated. Five different acids have been found which are of value in the formation of the colloids, with the probability that others may be discovered that will yield equally interesting results.

Some of the advantages of the acid colloids of resins for use as textile finishes are low-temperature curing, excellent retention of hand on laundering in the case of light-weight cottons and rayons, and practically no loss in tensile strength when applied under the proper conditions to any of the textile fibers. These colloidal materials by themselves do not yield a crease- or crush-resistant effect, but if the factor of resiliency is of importance ways may be found to obtain the desired results.

Very early in this investigation, it was recognized that plasticizing agents or modifying materials were very necessary adjuncts to the use of these acid colloids as textile finishes. Consequently, considerable time and effort were spent in a consideration of the chemical properties of certain types of compounds, which it was hoped would lead us to a successful solution of the problem. From a large number of products that have been tested carefully, only four or five have met the necessary requirements of plasticizing power, stability and compatibility.

In conclusion, from the work which has been completed to date, it is apparent that the use of the resin-forming acid colloids opens up a new and important avenue of approach to the finishing of textile fibers and fabrics.

"Dyeing Mixed Acetate and Viscose Fabrics with Vat Colors"

PIEDMONT SECTION

THE purpose of this study was to investigate the possibility of dyeing union shades with vat dyes on fabrics manufactured from mixtures of acetate and viscose without the use of swelling agents and with little or no saponification of the acetate.

The importance of this problem has long been recognized because of the large yardage of fabrics on the market made from varying combinations of the above fibers, and the difficulty of securing the desired fastness on such goods without the use of vat colors.

In searching for a different approach to the problem, experiments were conducted with a great many substances, using a variety of procedures. These experiments pointed out that two types of compounds were capable of increasing the pick-up of reduced vat dyes by cellulose acetate under certain conditions. In these two types of substances tannic acid and one of the commercial phenol-sulfur condensates, sold as Katanol W, proved to be the most valuable for the purpose in mind.

Laboratory tests showed that after a treatment in the above two substances, either alone or in combination, many fabrics containing viscose and acetate could be dyed very satisfactory union shades with a fairly complete range of vat colors.

When Katanol alone was employed, a hot treatment in a solution of this product for 30 to 40 minutes was found necessary. After rinsing, these treated goods were dyed by a short passage through the reduced vat color using as small amounts of caustic soda as practical with the dye involved.

Unions by this method were possible with a very complete range of vat colors, and saponification of the acetate was found to be negligible.

Unfortunately upon exposing these promising dyeings to Fade-Ometer tests, they were found to show a strong brown discoloration on the acetate fibers after a period of only one to two hours. Since this defect had not been apparent in light tests of dyed goods which had been treated for only short periods in the phenol-sulfur compounds, it was evident that there was a definite increase of pick-up of the Katanol by the acetate with increased time, and that the phenol-sulfur body was quickly oxidized by light to give the brown discoloration. All attempts to eliminate this browning effect were ineffectual.

In the use of tannic acid, much higher concentrations were required than with Katanol, and the acid alone was just short of producing unions with the majority of dyes. Mixtures of this acid with small quantities of Katanol, however, gave more satisfactory results. The small addition of the phenol-sulfur condensate served to improve the color union between the two fibers, and to give better coverage than the tannic acid alone. No browning of the acetate by light was evident when goods were treated in this mixture for short periods.

By employing this tannic-Katanol mixture, very satisfactory union of shade was found possible by either the reduced method or the pigment pad method for vat colors. The latter procedure seemed preferable, however, from dyehouse experience with these dyes on other classes of goods. Laboratory work and practical trials or regular large-scale continuous range dyeing equipment was therefore concentrated on the following general procedure:

The goods were padded through the tannic-Katanol solution containing the vat dye in pigment form. These goods, either wet or dry, were run into reducing solutions containing caustic and hydrosulfite, plus salt and white corn dextrine as required for the color being applied.

The resulting dyeings showed very fine fastness to the usual rayon tests. Especially notable was the very high fastness to gas fading since this characteristic is difficult to obtain in several other classes of dyes. Saponification of the acetate was held to only a fraction of that which resulted when the fabrics were passed through the same procedure without the addition of the tannic-Katanol combination.

"Dimensional Changes Occurring in Spun Viscose Rayon Fabrics During Finishing Operations on Machinery Used for Obtaining Shrinkage Stabilization"

PHILADELPHIA SECTION

THIS study of the effect of finishing machinery on shrinkage stabilization procedures shows that with a proper knowledge of the dimensional changes occurring in the fabric before, during, and after the chemical treatment, it is possible to greatly improve the consistency and quality of the desired end results. There have been many articles published concerning the chemical usage in treatments for stabilization but each finisher has been left to work out his own mechanical routine. It is felt that an approach to the stabilization problem from the study of the influence of the machinery involved will be of considerable value to the practical man of the Society in locating and correcting the defects in his techniques of processing.

In general the procedure of work was as follows: Fabrics were treated with chemicals such as urea formaldehyde, malamine formaldehyde, glyoxal, and with alkali-soluble ethers in combination with formaldehyde. No emphasis was placed on the nature of the chemical treatment other than to carry out the treatment under the conditions of time and temperature recommended by the supplier of the chemical.

All treatments involved padding, drying, curing, washing, drying, and final finishing. Prior to the padding, 18" marks were placed warpwise and fillingwise on the scoured and dyed fabrics. After passing through each machine used in the process, the dimensional changes in the 18" marks were recorded. In order to maintain continuity in processing, there was no time allowed for conditioning of dried fabrics so that an error of 0.1" may be expected in those figures measured immediately after drying or curing. Each measurement was converted into percentage change based on the original 18" marks placed prior to padding. Therefore a (+) value indicates that a gain in length or stretching was effected and a (—) value means a shrinkage or loss in length. Since all percentages are based on the original 18" marks, it also follows that a +3.0% followed by a +2.0% indicates a shrinkage occurring between the two measurements although the +2.0% shows an extension when compared with the original. These changes in dimensions are termed *processing* gain or loss. In most cases a single CCC-T-191 a wash test was run on a section of the fabric removed after curing. In all cases five CCC-T-191a wash tests were performed on the final fabric. These results are expressed as percentage *shrinkage* based on fresh 18" marks placed on the fabric at the time of commencing the wash test. As in the case of the *processing* figures the shrinkage results from the wash tests are expressed as + or — percentages.

Two general rules in obtaining final shrinkage control have been formed by the information obtained: (1) Normal tensions (such as met with in padding and rolling up, clip tentering, and the like) on the warp and filling up to the step of final washing and drying help to obtain good results on final stabilization but tension during or after the final drying must be kept to a minimum.

(2) A wash test of a cured section of a fabric can be used to predict what dimensional changes will be allowable in the future processing after curing. The sum of the processing gain or loss after curing and the shrinkage value of the wash test at the same point in the process should give a figure equal to the desired final processing figure.

In order to more fully appreciate the forces exerted on the fabric during processing a series of mechanical tests were performed. Strips of fabric were cut 10" wide across the filling and approximately 22" in the warp direction. Eighteen inch marks were placed on the warp and each end beyond these marks was sewed in such a way as to accept a rod much as a curtain rod. The top rod was fastened to a hook and the fabric hung downward due to the weight of the base rod. These test fabrics were then subjected to a variety of influences namely, further weighting, release of all weight, steaming with and without tension, and wetting and drying cycles. The memory of viscose rayon in relation to shrinkage and stretching was clearly pointed out by the results of the trials. Since treated and untreated fabrics were tested it was seen that for low loads the treated fabric response to changing conditions was most often less than shown by the untreated fabric. No figures are given here in the summary as space does not permit a discussion of the values. It is believed that dimensional changes shown in the trials will be of aid in helping to understand the forces causing the changes in dimension found to occur in actual machine processing.

"A New Approach to the Evaluation of Wool Oils for Resistance to Oxidation in Storage"

MID-WEST SECTION

THE oxidation of wool oils when stored on yarn or fabric has been, and still is, a source of difficulty in processing wool fabrics. Oils which oxidize easily are more difficult to remove in scouring and seriously affect the dyeing properties of wool.

Available accelerated testing methods for evaluating the oxidizing characteristics of wool oils do not correlate very well with the results obtained under normal storage conditions. For example, the well-known MacKey test is reasonably accurate when used on saponifiable oils, but when used to evaluate mineral base wool oils, particularly those of the newer type, it does not correlate at all well with normal storage.

The test advocated by the National Association of Wool Manufacturers makes use of the Fade-Ometer. In this test, the oiled swatch is exposed for twenty hours and the amount of dis-

coloration is noted. Oils showing little or no staining are considered acceptable. This test was originally designed for evaluating the straight mineral oils often blended with saponifiable oils to produce worsted oils. The Fade-Ometer test has, however, gradually been extended to cover all wool oils regardless of type. Work done with a number of oils in an attempt to correlate the Fade-Ometer test with actual storage for periods up to 12 months, indicates that this test is only accurate 25% of the time, in predicting the behavior of oils under normal textile storage conditions. One misleading factor is the bleaching effect that high intensity ultraviolet light exerts on animal fats and vegetable oils. Fats and oils pass through two phases of oxidation, the first being a slow induction phase and the second a fast oxidation phase. Darkening takes place during the induction phase which is then followed by a bleaching effect in the second phase. The high intensity of the Fade-Ometer probably brings about the second phase before the first one is noticed.

Experience in the fat field has shown that increasing the temperature of storage accelerates oxidation. This type of accelerated test more nearly duplicates normal oxidation than any other methods investigated.

The test proposed here is based on this fact and consists of exposing swatches of wool fabric, containing 10% of their weight of the oil to be tested, to a 120°F. temperature at a constant humidity for three weeks. The discoloration obtained in this test duplicated one year of actual aging under normal conditions for 10 out of 11 representative wool oils of different types. These 11 oils represent 100% saponifiable types such as lard and peanut, mixtures of saponifiable and mineral, 100% fatty esters, mixtures of esters and mineral oil, 100% sulfonated mineral oils and the newer so-called "self-scouring" oils of a saponifiable and unsaponifiable nature.

Scouring and dyeing of exposed swatches, indicated that the method of dyeing has considerable bearing on the end result.

An exhibit forms part of this paper and contains samples illustrating:

1. Twelve months natural aging.
2. Three weeks aging at 120°F.
3. Sixteen hours aging at 190°F.
4. Twenty hours exposure in the Fade-Ometer.
5. Samples from 1, 2, 3, and 4 following scouring.
6. Samples from 1, 2, 3, and 4 scoured and dyed with four different classes of dyes commonly used on wool.

"The Application of the Differential Dyeing Test for Fiber Maturity to the Processing of Cotton"

SOUTHEASTERN SECTION

THERE is an increasing awareness in the cotton textile industry of the importance of cell wall development (maturity) in the fibers which comprise the raw material. Thin-walled fibers in mill lots of cotton may cause difficulties in processing and lead to the production of inferior yarns and fabrics. Costs are thereby increased and the value of products lowered. Principally the presence of thin-walled fibers leads to excessive waste during yarn manufacture, large numbers of neps in yarns and fabrics, inability to obtain precisely matched dye shades, and the appearance of filling bars in piece-dyed fabrics.

Fiber wall thickness, usually considered a varietal characteristic, can be greatly altered by environment. For example, cell walls may be prevented from thickening normally by water stress, soil deficiency, fusarium wilt, and various types of insect manifestations.

The development of satisfactory methods of general applicability for determining the degree of wall thickness or maturity has lagged behind that of techniques for evaluating other fiber properties. The conventional microscope methods are too tedious and time-consuming for use in the mill-scale classification and selection of cottons for specific use. Therefore, quality is usually judged by classer's designation of grade and staple. A unique differential dyeing test developed at the Southern Regional Research Laboratory shows promise of fulfilling the need for a simple and relatively rapid technique for indicating the presence and distribution of thin-walled, immature fibers. It permits, in addition, estimates of their proportions in samples of cotton.

It was desired to illustrate to the manufacturer the importance of fiber development as an indication of quality and to demonstrate the value of the dye test for predicting quality in cottons. To this end, two lots of cotton were selected because of their very different response to the dye test although about equally priced on the basis of the classer's designations; and data were compiled from mill records on their spinning performance. The lot shown by the dye test to contain an excessive amount of immature fibers was predicted to be inferior and did in fact give about twice the total percentage waste and produce a yarn of much lower grade. Such data indicate that fiber development is related to quality, that the immature fibers cause inferior products, and that classer's grade and staple are not always adequate for the selection of cottons for most efficient production and highest attainable quality in the manufactured products.

The dye test has also been applied successfully to indicate differences in the efficiency of blending and to indicate the nature, with respect to maturity, of the fibrous material in the waste. For example, dyeings of two series of processes stock samples representing two different methods of manufacture showed that not only was a greater proportion of the extremely thin-walled, nep-forming fibers removed in one process but also that the thick- and thin-walled fibers remaining were more evenly distributed. In general, the proportion of thick- and thin-walled fibers in the waste corresponded to the proportion in the process stock in the manufacture of carded yarns. The only processing operation which showed a definite tendency toward the selective removal of thin-walled fibers was combing.

The dye test is of value for the selection of cottons for use in denims and chambrays where neppiness is particularly objectionable. Another means of selecting cottons is on the basis of fiber fineness estimated by means of the Micronaire. Two sets of cotton samples classified, respectively, by the Micronaire and the dye technique, were investigated in order to provide information on the relationship of the two techniques. Fifty-six samples of a Rowden 41B variety (1947 crop), a coarse-fibered cotton, and 98 samples of Stoneville 2B (1948 crop), a relatively fine-fibered type, were examined.

The dye test appeared to be more reliable for identifying cottons of low maturity than the Micronaire fineness test. This is of interest because the production of neps is reported to be influenced by the maturity of cottons more than any other single factor.

THE WET PROCESSING INDUSTRY

in the Philadelphia Area

THOUGH the Philadelphia Section of the A.A.T.C.C. comprises the states of Pennsylvania, Maryland and Delaware as well as South Jersey and the District of Columbia, the veritable core of this beehive-like section of wet processing activity can be said to be centered in greater Philadelphia. Perhaps a closer simile would be one in which Philadelphia resembles a giant hub with its spokes jutting forth into four states and one district to make one huge and smoothly operating wheel, efficiently serving as a proud base for the wet processing industry in this area.

The area has served the nation from the very outset in this industry, in line with its other rich traditions and histories, and it is able to boast of many "firsts" such as the oldest exclusive hosiery processing plant in the United States (founded 1911) or the bleach and dye works in Maryland that has been in continuous operation at its present site since before 1800.

Several of the largest plants dot the area and forty-three organizations within its limits (over half of which are located within Philadelphia) grace the rolls of the A.A.T.C.C.'s corporate memberships.

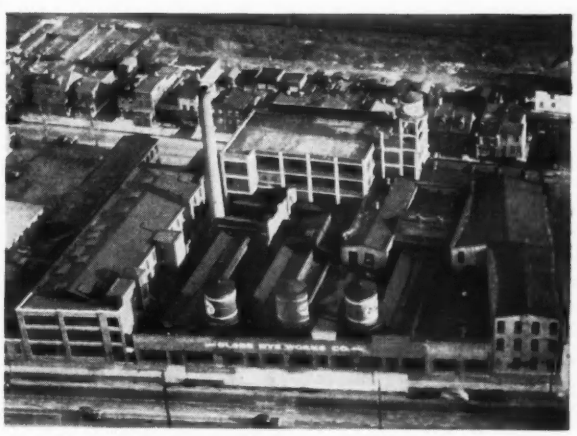
Among those familiar with the wet processing industry, this section is known primarily for its activity in dyeing, bleaching and finishing of hosiery, knit goods and knitting yarns. Hosiery alone accounts for the activity of over forty plants in whole or in part, whereas the forementioned activities as a group are carried on by more than eighty plants in Pennsylvania, six in South Jersey and one in Maryland.

A further breakdown of statistics shows Pennsylvania among the leaders in regards diversity and extent of operations within the field. The Keystone State boasts the following record: *(1)*

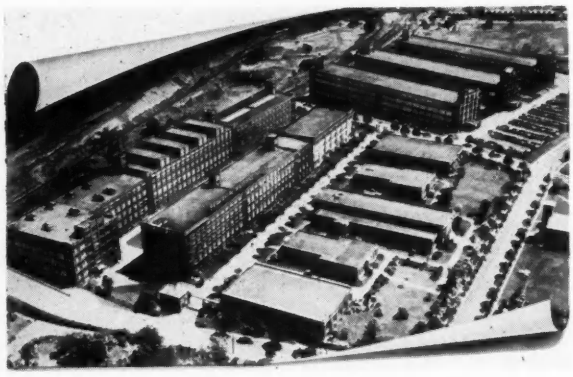
Category	No. of Plants
Bleachers, dyers and finishers of cotton yarns, woolen and worsted yarns, narrow fabrics, ribbons, rayon, nylon and skein silk	46
Bleachers, dyers and finishers of cotton piece goods, hosiery and knit goods, rayons, nylons, silk and mixtures	78
Package dyeing of Yarns	7
Bleachers and dyers of raw cotton, wool and worsted tops	13
Dyers and finishers of woolen and worsted piece goods	13
Bleachers, dyers and finishers of embroidery and lace	1
Mercerizers of cotton yarns	7
Printers of worsted tops	1
Scouring and carbonizing	7
Printers of cotton piece goods, rayons, nylons, silks and mixtures	7
Printers of hosiery	2
Printers of ribbons	2
Mercerizers of cotton piece goods, rayon piece goods and mixtures	2
Coated fabrics, oil cloths, etc.	4
Waterproofing, mildew-proofing, etc.	12
Miscellaneous	11

Degree of specialization and versatility are exemplified in the breakdown of the "miscellaneous" category above: finishing of horsehair and covered rubber thread; dyeing of linens, jute and ball, hank and box knitting yarns; rubberized fabrics;

Jos. Bancroft and Sons Co., Wilmington, Del.



Globe Dye Works Co., Philadelphia



Berkshire Knitting Mills, Reading, Pa.

flame- and mildew-proofing; shrinking; sizing; and glazing and engraving.

South Jersey comes next within the section, listing seven plants in the first category, three in the next two, and one each in the next six. Two can be classified under miscellaneous. The Garden State also lays claim to the only flocking plant in the area.

Maryland has two plants listed in the first category, one in the second and one which does printing of woolen and worsted piece goods. Delaware's exclusive wet processing plant falls into the first category as well as the one covering "Mercerizers of Cotton Piece Goods, Rayon Piece Goods and Mixtures."

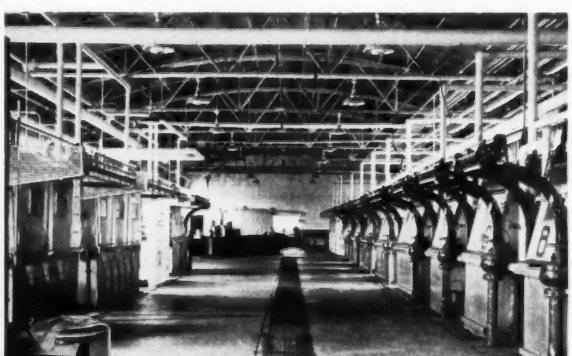
Several mills in the Philadelphia section have their own dyehouses:

State	No. of Mills
Pennsylvania	26 cotton
	1 jute
	55 knitting
	13 silk and rayon
	44 woolen
Maryland	3 cotton
	6 knitting
	2 rayon and silk
	2 woolen
South Jersey	3 cotton
	3 knitting
	1 woolen
Delaware	1 cotton
	1 woolen

The preponderance of the wet processing industry in the area can be explained when one considers that in 1942 one-fourth of all knit, woven and annular goods in the country were produced in Pennsylvania alone *(2)*. This includes such items as underwear, hosiery, lace, dress and print goods, felt hats, uniforms, braids, carpets, rugs, blankets, tents and awnings, burlap bags and cordages, tapes and binding materials.

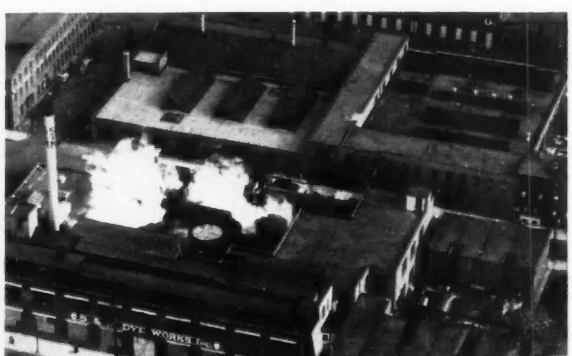
Official Washington fits into this overall picture with the Armed Services and the Bureau of Standards contributing to research development in all phases of the textile industry including the wet processing. There has been, and continues, considerable cooperative work between the A.A.T.C.C. and these groups.

The Armed Services will have a display at the Atlantic City national convention of the A.A.T.C.C. with uniformity in pattern and theme. The Navy's exhibit will point up research and development activities of interest to the textile finishing, dyeing and wet processing industry and will include displays in the following: Improved color fastness of work clothing,

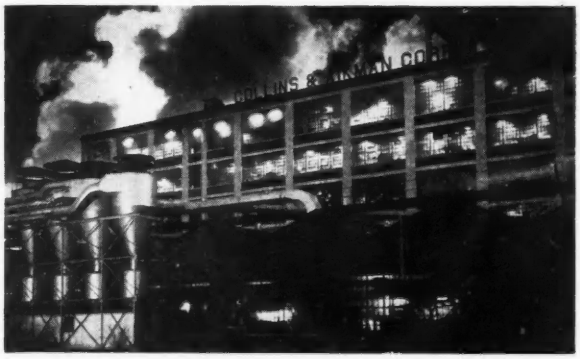


Courtesy of Russel's Studio, Mt. Holly, N. J. and Eagle News

Interior View of a section of Eagle Dyeing and Finishing Co. Mt. Holly, N. J.



S. and M. Dye Works, Inc., Philadelphia Plant



Collins & Aikman Corporation, Philadelphia Plant

The Hellwig Silk Dyeing Co., Philadelphia

Universal Dye Works, Inc., Philadelphia

aging of cotton fabrics, the adaptation of rain testers, and synthetic fur. The Army proposes to exhibit fabrics, charts and photographs illustrative of Quartermaster Corps research on dyeing, color fastness, shrink resitance and other allied work. It is expected that the new Stoll Universal Wear Tester and the Barren Land Tent will be demonstrated. Late information indicates that the Marine branch will also be represented in the exhibit.

Labor-management relations are very healthy as a whole in the area and much of it can be attributed to a genuine desire on the parts of both factions to understand each other's problems. Company sponsored activities are only one phase of the relationship. A South Jersey dyeing and finishing firm has found its monthly publication an excellent medium for cementing relations. This specific tabloid is published by and for the workers of the establishment. Several other large outfits have also found the idea highly successful and well worth their investment.

Pennsylvania is justly proud of its contributions to textile education, for within the city limits of Philadelphia lies one of the finest textile institutions in the country. The Philadelphia Textile Institute has overflowed its banks, so to speak, and has moved from its old quarters downtown to a new location in Germantown. This degree-granting college is rapidly taking renewed prominence in the textile industry.

Pennsylvania State College has been of immeasurable aid in textile research and development with the Ellen H. Richards Institute conducting research in colorfastness, durability, detergency and consumer wear. Color slides of activities at the Institute will be shown in their booth at the forthcoming Atlantic City convention.

Philadelphia Textile will also be represented at the convention. Their display will include a series of fabrics which typifies the work that P.T.I. students produce in the school's laboratory. The engineering principles that are taught in the classroom are applied in the laboratory and these fabrics are the outcome. In addition, some of the work produced in the color classes will be displayed along with examples of some of the visual illusions that make the color problem so interesting yet difficult. Some space will also be devoted to present facts about the new building which is now practically complete.

Aside from formal education, numerous vocational schools and intra-mill programs are doing their part in fostering a new generation of technologists.

In retrospect, the section can be justifiably proud of its textile and processing industry and, without doubt, it has every right to look upon a very glowing future.

References

(1) Davison's Textile Blue Book (1948) pgs. 722-752.
(2) "Pennsylvania," Federal Writers Project.

THE SOLUBILIZATION OF DYESTUFFS WITH SURFACE ACTIVE AGENTS*

Presented by the

MID-WEST SECTION

Committee

Leonard J. Armstrong, *Chairman and Speaker*
Elliott Morrill
John E. A. Schroder
John C. Moertel
Leslie O. Meyer

Introduction

THE development in recent years of synthetic fibers such as acetate and nylon has led to greatly increased interest in the action of surface active agents as dispersing, suspending and solubilizing agents in dyeing. Primarily, the focal point of this interest has been devoted to dispersing action, as indicated by the very recent formation within the Association of a new committee to study the evaluation of dispersing agents and wetting agents to aid in dyeing cellulose acetates specifically and new fibers in general.

The matter of increasing the solubility of dyes has also received recognition of late and was the subject of a paper by Zimmerman and McCleary,*(1)* at the last National Convention in Chicago.

The action of soap as a solubilizing agent for dyes has been known for many years. It was first reported in the literature by Pfluger*(2)* in 1899 that oil soluble dyes are soluble in aqueous soap solutions. However, since soap was in general use for clearing dyebaths at that date, it must be concluded that the property of soap for enhancing the solubilization or dispersion of dyes was recognized in a practical way somewhat earlier.

Recent detergency studies have elicited considerable information relative to solubilizing action.

Before proceeding further, a strict definition of the term "solubilization" in connection with the present paper is in order.

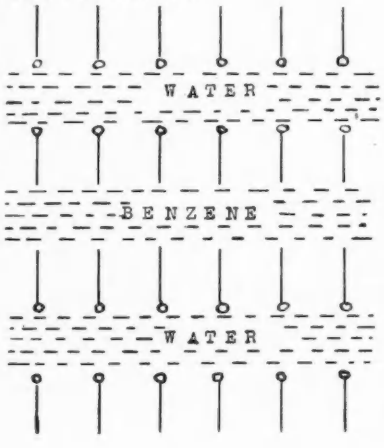
McBain showed in 1936*(3)* that water-insoluble dyes were extracted by one per cent soap solutions, not only from pure crystals but even from unsaturated solutions of dye in kerosene, mineral oil, paraffin wax and benzene. In turn, each of these solvents was shown to be capable of extracting some dye from a one per cent soap solution.

Stable, reversible equilibria were evidently involved. Subsequently, McBain*(4)* defined solubilization as "the spontaneous passage of molecules of a substance insoluble in water into a dilute aqueous solution of a detergent, to form a thermodynamically stable solution".

Mechanism of Solubilization

Merrill and McBain *(5)* carried out measurements on the solubilization of Orange OT (1-0.-tolylazo-2-naphthol) by Aerosol OT. They obtained curves which showed rapid increase in solubilizing power in the same Aerosol concentration range where other properties, such as osmotic behavior and conductivity, show that change from crystalloidal to colloidal form of the detergent occurs. They concluded that solubilization of the dye molecule resulted from participation in colloidal particles. The solubilized dye solution contained particles which were invisible under the microscope but visible under the ultramicroscope, further confirming the colloidal nature of solubilization phenomena.

The concept has been developed from X-ray data *(6)* that the micelles which exist in aqueous soap solutions are lamellar in structure. The soap molecules are closely packed side by side and placed in pairs end to end. A diagrammatic representation is shown:



Water, of course tends to associate with the polar ends of the soap molecules; whereas, the water insoluble substance is held between the fatty ends of the surface active agent.

An essential distinction between the solubilizing action described herein and the hydrotropic effects described by Zimmerman and McCleary, lies in the much smaller quantities of solubilizing agent which may be effective.

Hydrotropy, the term employed by Zimmerman and McCleary, was introduced by Neuberg*(7)* to account for the effect of *large* additions of various substances to water in increasing the solubility of other substances therein. The addition of 40% urea to multiply the solubility of Calcocid Milling Orange 4R five times is illustrative of hydrotropic action and actually indicates a marked change in the nature of solvent employed.

On the other hand, the critical concentration at which surface active agents become solubilizing agents has been found to be identical with that required for micelle formation. This concentration is not in excess of 0.1% in the case of materials commonly employed as detergents.

Kolthoff*(8)* has shown that when sodium oleate was used as a solubilizing agent for dimethylamino-azobenzene the quantity of the dye dissolved is directly proportional to the amount of soap employed, (in excess of the critical concentration).

The data shown in Table I were developed.

* Presented in Intersectional Contest, Augusta National Convention, October 23, 1948.

TABLE I

Solubilization of DMAB in sodium oleate solutions at 50°C.

Conc'n. of Soap Moles/liter	*Mg. DMAB solubilized per liter soap solution*
0.10	575
0.08	450
0.06	335
0.04	241
0.02	115
0.01	61
0.04	35

One of the functions of salts is to reduce the concentration of detergent at which micelle formation takes place. Studies have demonstrated that they also lower the critical concentration at which appreciable dye solubilization occurs and increase the quantity of dye solubilized at a given detergent concentration level.

The dye itself can also function in the same manner as a salt to promote micelle formation, thus accounting for the observation that solubilization may occur at concentrations slightly below those at which micelle formation takes place in the pure detergent solution. In fact, any circumstance known to increase this formation enhances the amount of solubilization.

Experimental

In order to avoid effects produced by unknown quantities of salts, both the dyes and the detergents selected were of a high degree of purity. With the exception of the F.D. and C. colors the dyestuffs were not the commercial products but were the base colors obtained before the addition of standardizing and dispersing agents.

The dyes employed are listed below as are also the detergents. Identification is made in all cases since it is recognized that all dyes or detergents within a particular classification do not exhibit identical properties.

TABLE II

Solubility in Mg. per Liter of Acetate Dyes in 1% Detergent Solutions at 25°C.

	Acetamine Scarlet B		*Celanthrene Brilliant Blue FFS*		*Acetamine Yellow N*	
Detergent	*Sol'y.*	*% increase*	*Sol'y.*	*% increase*	*Sol'y.*	*% increase*
None	5.6	—	4.8	—	1	
Texscour	174	3100	324	6800	44	4400
Dupanol	194	3500	548	11400	58	5800
Igepon T	140	2500	224	5100	84	8400
Monopol Oil	76	1400	126	2600	60	6000
Peregal O	84	1500	134	2800	88	8800
Armour RD-1023	172	3100	220	4600	300	30000
Arquad 12	8	140	6	125	2	200
Arquad 2C	2	decrease	2	decrease	0.4	decrease

DYES.—

1. Acetamine Yellow N
2. Acetamine Scarlet B
3. Celanthrene Brilliant Blue FFS

   Nylon or acetate dyes.

   Supplied by E.I. du Pont de Nemours as base materials free of standardizing and dispersing agents.
4. Milling Yellow 5G (C.I. 642)
5. Fast Red A (C.I. 176)
6. Wool Fast Blue BL (C.I. 833)

   Acid dyes

   Supplied by General Dyestuff Corporation to contain minimum quantities of standardizing agents.
7. Tartrazine (F.D. & C. Yellow #5) (C.I. 640)
8. Erythrosine (F.D. & C. Red #3) (C.I. 773)
9. Brilliant Blue FFC (F.D. & C. Blue #1) (C.I. 671)

   Supplied by National Aniline Division of Allied Chemical and Dye Corp.

SURFACE ACTIVE AGENTS.—

1. Texscour Flakes—sodium oleate soap.

   Armour and Company
2. Dupanol ME—sodium lauryl sulfate.

   E. I. du Pont de Nemours Co.
3. Igepon T—$C_{17}H_{33}CO\text{-}N(CH_3)\text{-}CH_2CH_2SO_3Na$

   General Dyestuff Corp.
4. Monopol Oil—Sulfated castor oil.

   Jacques Wolf & Co.
5. Peregal O—$C_{18}H_{35}\text{-}O\text{-}(C_2H_4O)_x\text{-}H$

   General Dyestuff Corp.
6. Armour RD-1023 —

   $C_{12}H_{25}\text{-}N(CH_3)\text{-}(C_2H_4O)_3H$, $(C_2H_4O)_3H$, Cl

   Armour and Company

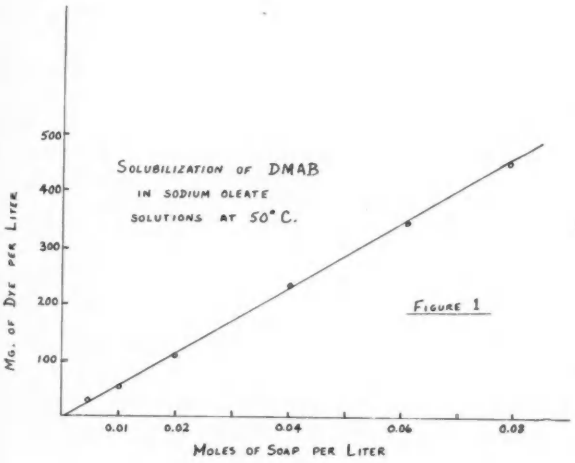


FIGURE 1

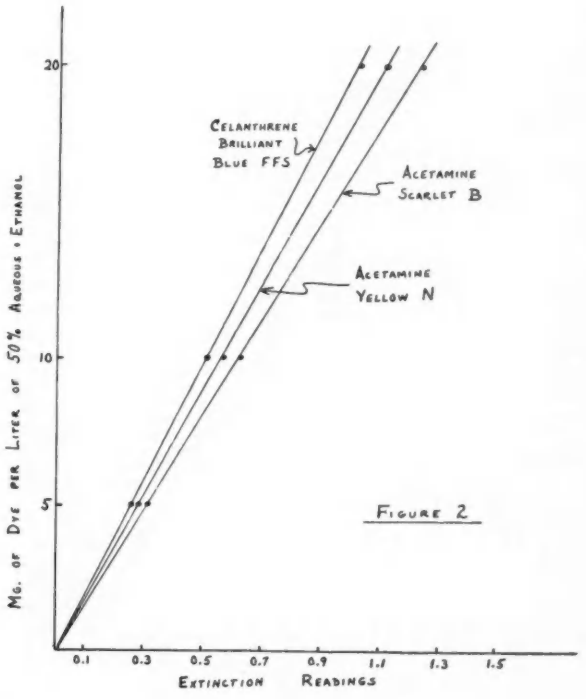


FIGURE 2

7. Arquad 12 (salt free)—lauryl trimethyl ammonium chloride
   Armour and Company
8. Arquad 2C—dilauryl dimethyl ammonium chloride
   Armour and Company

Determination of Dye Solubilities

1. PREPARATION OF SOLUTIONS.—Stock solutions of the various detergents were prepared in distilled water to contain 2% of the active detergent. Solutions containing 1% and 0.1% of active detergent were made by proper dilution of the stock solutions.

The samples were placed in glass bottles and sealed with plastic caps lined with aluminum foil. Sufficient dye was added to provide an excess of solid dye after attainment of solubilization equilibrium. Saturated solutions were prepared in this way to avoid the possibility of supersaturation.

In order to make the solubility conditions correspond more closely to actual dyeing conditions, 0.05% of trisodium phosphate was added to the acetate dye solutions. To a considerable extent this procedure impaired the action of the quaternary ammonium compounds since the phosphate salts of Arquads 12 and 2C are not very soluble.

Similarly 0.05% formic acid was used for the solubility determinations with the acid colors. The solubilities of the soap and the two Arquads was adversely affected.

The bottles containing the dyestuff were held at 25°C. and shaken at intervals over a period of ten days minimum to attain equilibrium.

2. DETERMINATION OF SOLUBILITIES.—Solubilities were determined by means of a Beckman spectrophotometer. The dye solutions were allowed to stand for 24 hours without shaking and 5 cc. of the colored detergent solution withdrawn in a pipette fitted with a piece of rubber tubing containing a plug of nylon staple as filter material. The samples so obtained were diluted with 50% ethanol-water in volumetric flasks.

TABLE III

Solubility in Mg. per Liter of Celanthrene Brilliant Blue FFS in 0.1% Detergent Solutions at 25°C.

Detergent	*Solubility*	*% Increase*
None	4.8	—
Texscour	91	1900
Dupanol ME	54	1130
Igepon T.	46	960
Monopol Oil	21	450
Peregal O.	19	400
Armour RD-1023	22	450
Arquad 12	5	104
Arquad 2C	6	125

After final dilution the light extinction given by the dissolved dyestuff was measured in 1-cm. cells in the Beckman spectrophotometer.

Extinction readings were made with 50% ethanol-water solutions containing known quantities of dye to calibrate the spectrophotometer readings in terms of milligrams of dye dissolved per liter of solution and to establish the validity of Beer's law for these determinations. Extinction readings for the acetate dyes are graphed in Figure 2 against concentration and for the acid dyes in Figure 3.

Readings were made at the wave-length of maximum extinction.

Solubility Data and Discussion

A. ACETATE DYES.—In every case except for the two Arquads, solubilization of the dye was considerably greater in the 1% detergent solutions than in the 0.1% solutions.

Complete solubility data were obtained for the 1% solutions and are shown in Table II. Time did not permit determination of the critical concentrations required with the various detergents. In some instances this concentration is of the order of 0.1%.

Solubility values for the Celanthrene Brilliant Blue FFS at 0.1% detergent concentrations are shown in Table III, to illustrate the effect of increasing solubility with increase in detergent concentration.

The acetate dyes used in this study have appreciably greater solubility in water than has the DMAB used by Kolthoff. It is significant that increasing the concentration of sodium oleate (Texscour) by ten does not provide the relatively great increase in solubility which Kolthoff observed with DMAB in Table I.

B. ACID DYES.—Visual examination of the solutions containing the acid dyes indicated far less solubilization than was observed with the acetate. Differences between the solubilizing effects in 1% and 0.1% solutions were not great. The very much greater solubility of the acid dyes made exact determinations of the quantity dissolved in water difficult. This evidently was due to the tendency of the dye molecules to aggregate and form colloidal particles.

Solubility data for the acid dyes in 1% detergent solutions are shown in Table IV. Since the relative differences in solubility of the three dyes are small in comparison with the set of acetate dyes, complete solubility data are shown only for the Wool Fast Blue BL.

The significant difference between the action of detergent solutions on the acetate and the acid dyes appears to be associated with differences in solubility of the two groups. The acid dyes are sufficiently soluble in water to form micellar aggregates, whereas the acetate dyes are

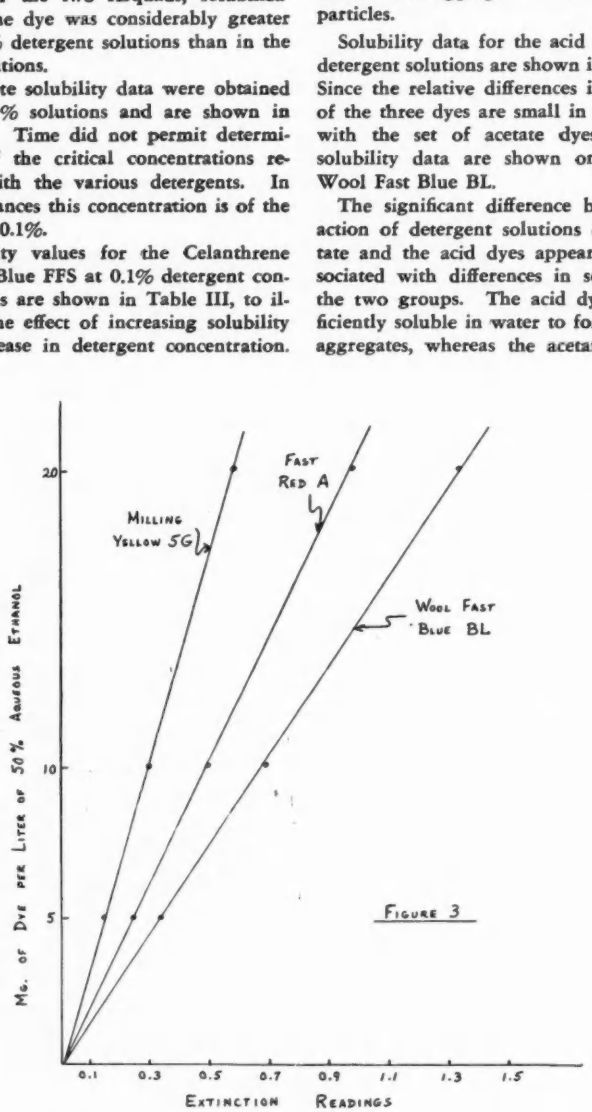


Figure 3

not. Ralston*(9)* has recently demonstrated that when two substances are present in solution both capable of micelle formation the resulting micelle is a mixed particle comprising both agents. This is in contrast to the simple solubilization phenomenon observed with the insoluble crystalloidal dyes.

C. F. D. AND C. COLORS.—The F. D. and C. colors used are all extremely water soluble (at least 10 grams per 100 ml. of water at 30°C.). Spectrophotometric solubility determinations were not made with these colors. Visual observation indicated that the solubility of all three was reduced by the addition of the cationic detergents. Little change in solubility was observed upon addition of the nonionic and anionic materials. However, it was rather conclusive that the solubility was not increased appreciably.

Conclusions Based on Solubility Studies

The data obtained indicate that the greatest solubilization occurs with the least soluble dyes. As a group the acetate dyes are solubilized at least in terms of per cent increase in solubility to a far greater extent than are the acid dyestuffs. Further, within the acetate group the least soluble Acetamine Yellow N is solubilized to a greater extent percentage-wise than the Scarlet B or Brilliant Blue FFS.

This conclusion is in agreement with that of McBain working with Orange OT and Yellow AB in lauryl sulfonic acid solutions. He found that the more hydrophobic and insoluble Yellow AB was the more highly solubilized.

No great accuracy is claimed for the solubility data on Wool Fast Blue BL. Considerable filtration was required to obtain solutions approaching optical clarity and opportunity for a sizeable experimental error was thus introduced.

The acid dyes used are all sodium salts of sulfonic acids and in the presence of 0.05% formic acid some conversion to the free and less soluble sulfonic acid takes place. The sodium salts of the dyestuffs are capable of micelle formation and those micelles can exert a solubilizing effect on the acid form or undissociated dye molecules. In agreement with the micelle theory, outlined earlier, this results in an increase in micelle size. The largest micelles undoubtedly resist filtration.

The addition of a surface active agent should increase the total solubilizing effect on the solution. However, the possible formation of mixed micelles from materials as dissimilar in structure as a surface active agent and a dye likely prevents formation of uniform lamellar layers such as shown in Fig. 1. The water associating effect of the sulfonic acid groups also may reduce the solubilizing properties of the detergent hydrocarbon chains.

The cationic agents can combine with the anion of the acid dyestuffs to form complex salts less soluble in water than the parent dyes. This property certainly is responsible for the greatly reduced solubility of the acid dyes in the Arquads. However, where the acetate dyes are concerned the most important consideration is the relative insolubility of the quaternary compounds in the presence of the phosphate ion.

The highly water soluble F.D. and C. colors evidently function much more like salts and in the case of the Blue #1 and Yellow #5 at least their solubility is not appreciably changed by the anionic or nonionic detergents. The cationic agents, of course, reduce solubility by interaction with the dyes.

Dyeing Requirements

In order to determine what correlation might exist between solubilization studies made at 75°F. with actual dyeing properties, several series of dyeings were made using the various dyes in conjunction with the various surface active agents.

In this work it was elected to use a knitted staple nylon fabric supplied by the Marinette Knitting Mills, Marinette, Wisconsin. Nylon was selected because it and acetate rayon are most representative of the types of fabrics with which surface active agents are normally employed. The staple is the newest form of this fiber and it was felt that data obtained with it would be of general interest.

The fabric was prepared for dyeing by scouring for 30 minutes at 140°F. with Armour's "Triumph" Detergent (nonionic) and rinsed twice at 140°F.

Dyeing time in all cases was standardized at 45 minutes. A blank, identical with the test dyeings, except for the absence of the surface active agent, was run with every set of dyeings.

ACETATE COLORS.

1. At 75°F.

Initial dyeing experiments were conducted at 75°F. using 1% of the surface active agent based on solution weight. Five tenths per cent dye and 0.1% trisodium phosphate based on fabric weight was employed. The blank was very much darker than any of the dyeings with which surface active agents were used; however, it was extremely uneven. The dyeing with Arquad 2C was quite weak, possibly due to the partial insolubilization of the agent with the TSP.

2. At 140°F.

Dyeings were made using 0.5% of dye on fabric and 0.1% TSP (on solution in each case.)

Two detergent concentrations were employed, 1% and 0.1%, both based on solution weight.

In general the colors were stronger at the 0.1% detergent concentration than the corresponding dyeings at 1%. The blank was the strongest of all but by far the least level. The Arquad 2C approached the blank at both concentrations. In most cases the Arquad 12 was also weak or uneven.

Best dyeings were obtained with the Monopol Oil and Armour RD-1023; whereas, the Texscour Flakes, Dupanol ME, Igepon T and Peregal O gave level but weaker colors.

Aside from solubilizing considerations, the cationic charge of the RD-1023 may have had a beneficial effect on its dyeing properties. Such indications have been previously reported. The superiority of the Monopol Oil over the other anionic agents merited further consideration.

In the spectrophotometric determinations the degree of dye solubilization imparted by the Monopol Oil compared with the other anionic agents was low. The relative difference in solubilization may be responsible for the better dyeings. The lower solubility obtained with the two Arquads gave much less even dyeing and the greater solubility imparted by the other agents produced level dyeings but with poorer color value.

TABLE IV

Solubility in Mg. per Liter of Acid Dyes in 1% Detergent Solutions

Detergent	*Fast Red A*	*Wool Fast Blue BL*		*Milling Yellow 5G*
	Solubility	*Solubility*	*% of "no detergent" solubility*	*Solubility*
None	2200	1380	—	1290
Texscour		452	32.7	
Dupanol ME		1680	122	
Igepon T		1120	81.2	
Monopol Oil		612	44.5	
Peregal O		1550	112	
Armour RD-1023		191	19.1	
Arquad 12		130	9.4	
Arquad 2C		72	5.2	

3. At 180°F.

The dyeings at 180°F. were uniformly better than the corresponding dyeings at 140°F. Better penetration at the higher temperature is evidently the answer. It was also observed, as at 140°F., that the dyeings with 0.1% solubilizing agent were superior in color value to those with 1% of agent.

4. Discussion.

The dyeings outlined above indicate that there may be a definite degree of solubilization which is optimum for dyeing; i.e., to produce a level shade with maximum color value in a minimum period of time at a given temperature.

It may be possible to use a few representative dyes as test dyes and determine the optimum degree of solubilization with those. Dyeing assistants within the same chemical class (anionic, nonionic or cationic) might be evaluated by determining the quantity, under specified conditions, required to impart that degree of solubility.

ACID COLORS.—In the selection of dyeing conditions for use with the acid dyes, the quantity and type of acid was selected which produce optimum dyeing properties in the absence of any surface active agent.

All dyeings were made with 0.75% dye and 1% of 85% formic acid.

Unfortunately the shade produced by 0.75% dye was quite heavy in all cases and small differences in color value were impossible to detect.

Dyeings were carried out at both 140°F. and 180°F. and with both 0.1% and 1.0% detergent concentrations at each temperature.

The two Arquads showed poor solubility compatibility with this class of dyestuffs. Particularly with the Arquad 2C precipitation of the dye on the fabric took place and 45 minutes running time was insufficient to level it out.

Incompatibility of soap with the acid also resulted in uneven dyeings.

As noted in the spectrophotometric work even 1% of the remaining surface active agents did not show marked effects on solubilization of the dye.

Examination of the dyeings showed the 180°F. dyeings to be somewhat better than those at 140°F; that is, there was greater color depth, as would be expected. Again, as with the acetate colors, dyeings with 0.1% of the agent were stronger than with 1%. Since the dyeing conditions had been adjusted to give optimum dyeing results with the blank, it was to be expected that increasing quantities of solubilizing agent would result in dyeings of poorer color value. On the other hand, decreasing the solubility of the dye, as with the Arquads, would be expected to produce less even dyeings, and that prediction was in general also confirmed.

F.D. and C. COLORS.—The great solubility of the Blue #1 and Yellow #5 (in excess of 20 grams per 100 ml. of water) invites the prediction that their dyeing properties on nylon would be poor.

Dyeings were made at 120°F. and 180°F. with bath 0.1% and 1.0% detergent solutions at each temperature. 1% dyestuff was used.

Only the agents which decreased the solubility of the blue and yellow colors; i.e., the three cationic agents, produced any color whatever on the nylon. Under each set of conditions the agent which allowed least solubility of the dye, namely the Arquad 2C, gave the greatest color value. It was followed in order by Arquad 12 and Armour RD-1023.

Dyeings at 180°F. were brighter and more level than at 120° F.

At a conceneration of 1% detergent the agent is in sufficient excess of the dye to permit solubilization of the complex by the agent, thus increasing solubilization. The dyeings with 0.1% solubilizing agent had better color value than those at 1% solubilizer.

Conclusions

The work described represents only a preliminary examination of a very large field. A great deal more experimentation would be required before definite conclusions could be drawn.

It has been shown that surface active agents serve as true solubilizing agents for a number of the dyestuffs in current dyeing usage. The absolute effect observed appears to be greater for the more insoluble dyes.

Micelle formation is evidently necessary to account for this phenomenon and, consequently, beyond the critical point increased detergent concentration results in greater solubilization. Salts function to lower the critical concentration of detergent required for micelle formation and, hence, for appreciable solubilization.

Dyeing trials conducted on staple nylon suggest that there may be an optimum solubility range of the dyestuff to produce the best dyeing properties, greater solubility exerting too great a retarding effect and lesser solubility giving rise to unevenness.

The indications shown of a relationship between true solubilization and dyeing properties on staple nylon may also carry over on acetate and should be investigated.

A comprehensive study of solubilization relationships with dyeing properties appears to be in order and might be of great significance in determining dyeing characteristics of new fibers.

Bibliography

1. Zimmerman and McCleary, Am. Dye. Reptr., *37*, P 47 (1948).
2. Pfluger, Pfluger's Archw, *81*, 375 (1899) through Chem. Zentralblatt (1900).
3. McBain and McBain, J. Am. Chem. Soc., *58*, 2610 (1936).
4. McBain, Advances in Colloid Science, Vol. I, Interscience Publishers, N. Y., N. Y. (1942).
5. Merrill & McBain, J. Phys. Chem. *46*, 10 (1942).
6. Kiessig and Philipoff, Naturwissenschaften, *27*, 593 (1939).
7. Neuberg, Biochem. Z., *76*, 107 (1916).
8. Kolthoff and Stricks, J. Phys. Coll. Chem., *52*, 915 (1948).
9. Ralston and Eggenberger, J. Am. Chem. Soc., *70*, 2918 (1948).

CALENDAR

PHILADELPHIA SECTION

Meeting: November 11 (Kugler's, Philadelphia).

PIEDMONT SECTION

Meeting: November 5 (Charlotte Hotel, Charlotte, N. C.

HUDSON-MOHAWK SECTION

Meeting: November 18.

NEW YORK SECTION

Meetings: November 18 (Swiss Chalet, Rochelle Park, N. J.) Jan. 13 (Hotel New Yorker, New York), Mar. 3 (Hotel Statler, New York), April 7, May 5 (Kohler's Swiss Chalet, Rochelle Park, N. J.), June 16—Outing.

NORTHERN NEW ENGLAND SECTION

Meetings: November 4 (Lowell Textile Institute), December 2 (Boston).

WESTERN NEW ENGLAND SECTION

Meeting: November 4 (Rapp's Restaurant, Shelton, Conn.), December 9 (Danbury, Conn.)

SOUTHEASTERN SECTION

Meeting: December 3 (At French Textile School, Georgia Institute of Technology).

SOUTH CENTRAL SECTION

Meeting: November 19, (Hotel Patten, Chattanooga, Tenn.).

COUNCIL

Meeting: December 9 (New Yorker, New York).

RESEARCH COMMITTEE

Meeting: Dec. 9.

NATIONAL CONVENTIONS

1949: October 13 to 15, Chalfonte-Haddon Hall, Atlantic City.

1950: September 28 to 30, Portsmouth, N. H.
1951: October 18 to 20, Statler, New York.
1952: Boston.

South Central Section to Meet Nov. 19

THE next meeting of the South Central Section will be held November 19, 1949 at the Hotel Patten, Chattanooga, Tenn.

EMPLOYMENT REGISTER

This column is open for four insertions per year, per member, without charge. Blanks can be obtained from, and filed with, the Secretary of the Association, Lowell Textile Institute, Lowell, Mass. It is understood that these will be open to inspection by prospective employers, who can obtain further information from the Secretary.

49-23

Education: Textile High School, with college courses in chemistry.

Experience: Laboratory and plant technician.

Age 23; unmarried; references; vicinity of New York City preferred.

9-19, 10-3, 10-17, 10-31

49-24

Education: PhD, Switzerland.

Experience: Roller and screen printing of all fibers; finishing, including resins and anticrease treatment; superintendent, research chemist and chief chemist, abroad and in U.S. since 1942.

Age 45; married; references.

9-19, 10-3, 10-17, 10-31

49-25

Education: High school, Lowell Evening Textile School, Northeastern University Evening.

Experience: Textile Chemist and Analyst.

Age 23; unmarried; references; Lawrence-Boston area preferred.

10-3, 10-17, 10-31, 11-14

49-15

Education: Equivalent of U. S. college, with some graduate work; also 5 months in U. S. A.

Experience: 9 years; since 1945 as dyeing master in mill of 900 employees specializing in wool.

Age 32; married; references; citizen of Denmark seeking position in North America, particularly southwest U.S.A.

10-3, 10-17, 10-31, 11-14

Membership Applications

SENIOR

Philip M. Barnett—Supt., Barnett Woolen Mills, Milwaukee, Wis. Sponsors: E. W. Camp, E. F. Cir.

Eilie Bergesen—Mgr., Chem. Dept., Van Waters & Rogers, Inc., Portland, Ore. Sponsors: A. McKenzie, Jr., R. M. True.

Ben Borus—Salesman, American Aniline Products, Inc., New York, N. Y. Sponsors: G. L. Armour, J. J. Marshall.

Ben H. Bottomley—Text. Technologist, Fabrica Sedatex, Colombia, S. A. Sponsors: W. J. Loeffler, G. Heine.

Jack A. Brown—Production Mgr., Glasgo Finishing Co., Glasgo, Conn. Sponsors: C. I. Lakey, W. A. Green.

James J. Casserly—Technical Sales, Wallerstein Co., New York, N. Y. Sponsors: J. A. Clark, M. W. Winkler.

Max E. Chiddix—Research Chemist, General Aniline & Film Co., Easton, Pa. Sponsors: C. E. Stevens, W. W. Williams.

Louis Ciko—Supervisor of Textile Printing, California Hand Print, Los Angeles, Calif. Sponsors: F. P. Brennan, E. A. Ferrante.

Daniel J. Coffey—Supt. of Blankets, F. C. Huyck & Sons, Rensselaer, N. Y. Sponsors: V. J. Krukonis, H. S. Dahlberg.

Gilbert Cohn—Prod. Mgr., Warp Knit Fabrics Dept., Julius Kayser & Co., Brooklyn, N. Y. Sponsors: A. P. Pelitsch, O. H. Demers.

Kenneth R. Crowley—Supt., Paramount Printing & Finishing Co., Pawtucket, R. I. Sponsors: K. J. Broden, D. J. Eccleston.

John W. Cutler—Dist. Sales Mgr., Swift & Co., East Cambridge, Mass. Sponsors: G. F. Long, F. F. Kobayashi.

John L. Dabbs—Salesman, E. I. duPont de Nemours & Co., Inc., Charlotte, N. C. Sponsors: H. H. Field, M. D. Haney, Jr.

Jean P. Davagne—Master Dyer, Liberty Fabrics of New York, Inc., Bronx, N. Y. Sponsors: F. M. Bonnett, W. R. Overs.

Albert R. Davidson—Vice Pres. & Gen. Mgr., Paramount Printing & Finishing Co., Pawtucket, R. I. Sponsors: K. J. Broden, D. J. Eccleston.

Archibald N. Doubleday—Sec. & Treas., Fenimore Fabrics, Inc., Cobleskill, N. Y. Sponsors: H. L. Dunlap, W. B. Broadbent.

William H. Dribben—Dept. Mgr., Cone Export & Commission Co., Inc., New York, N. Y. Sponsors: L. R. Burgess, R. H. Souther.

George W. Dunham—Text. Finishing Consultant, John Waldron Corp., New Brunswick, N. J. Sponsors: J. W. McCalla, W. W. Chase.

Egmont A. Egerer—Vice Pres., S. Augstein & Co., Inc., College Point, N. Y.

Roger P. Farren—Asst. Dyer, Textron, Inc., Manchester, N. H. Sponsors: M. Rosa, A. C. McDonough

Grady L. Gilbert—Service & Sales, Clinton Industries, Inc., Clinton, Iowa. Sponsors: C. C. Ewan, V. B. Holland.

Andre Hirtenstein—Chief Chemist & Colorist, Landmann, Filhos & Cia. Ltda., Sao Paulo, Brazil. Sponsors: J. A. Clark, M. W. Winkler.

Fowler Jackson—Tech. & Sales Repres., Laurel Soap Mfg. Co., Philadelphia, Pa. Sponsors: A. H. Gaede, D. H. Kennemur, Jr.

Converse C. Johnson, Jr.—Research Assoc., Inst. of Textile Technology, Charlottesville, Va. Sponsors: M. T. Barnhill, J. B. Mungall.

Jacob Katz—Pres. & Treas., Universal Chemicals Corp., Lonsdale, R. I. Sponsors: E. A. Richards, J. C. Shore.

Robert L. Katz—Dyer, Katz Dye Works, Newark, N. J. Sponsors: H. E. Hager, W. Luqueer.

Emil J. Kayser—Research & Develop. Engr., Schlegel Mfg. Co., Rochester, N. Y. Sponsors: H. Gendreau, J. C. Walker.

Arthur F. Klein—Chemist, Calco Chemical Co., Bound Brook, N. J. Sponsors: C. A. Amick, F. Fordemwalt.

Joseph B. Knipe, Jr.—Asst. Treas., Walter E. Knipe & Sons, Inc., Philadelphia 20, Pa. Sponsors: M. G. Campbell, Jr., A. Brambani.

John P. Kramer—Salesman, Emery Industries, Inc., Philadelphia, Pa. Sponsors: A. E. Raimo, J. W. Ritz.

Gotthelf Kuhn—Mgr., Ciba Ltd., Basle, Switzerland. Sponsors: J. Marshall, J. P. Bauer.

Howard A. Lovejoy—Salesman, Monsanto Chemical Co., Charlotte, N. C. Sponsors: F. K. Burr, R. Gow.

Solomon H. Markowitz—Chief Chemist, Berkshire Color & Chemical Corp., Springfield, Mass. Sponsors: H. E. Gile, F. F. Warshaw.

Charles McMeekin—Asst. Supt., Salem Linen Mills, Salem, Ore. Sponsors: A. H. McKenzie, A. McKenzie, Jr.

Richard E. Meiling—Salesman, Van Waters & Rogers, Inc., Portland, Ore. Sponsors: A. McKenzie, Jr., R. M. True.

James V. Mosley—Supt. Dyeing & Finishing, Georgia Rug Mill, Summerville, Ga. Sponsors: R. S. Steele, Jr., E. V. Helms.

Robert R. Mulligan—Pres., J. U. Starkweather Co., Inc., Providence, R. I. Sponsors: E. A. Richards, R. K. Andrew.

Charles E. Nixon—Tech. Sales., Diamond Alkali Co., Cleveland, Ohio. Sponsors: W. T. Evans, H. White.

Wayne Pheil—Dyer, Jeffries Dyeing Wks., Chester, Pa. Sponsors: F. W. Mitchell, E. R. Beigbeder.

Robert L. Poplin—Dyer, Patchogue Dyeing & Finishing Co., Patchogue, N. Y. Sponsors: H. C. Spatz, R. H. Schweibert.

Jack J. Press—Textile Tech., Development Div., Naval Clothing Depot, Brooklyn, N. Y. Sponsors: G. E. Hopkins, C. E. Deglialberti.

Marte Previti—Foreign Technical Repres., Wilson Export & Import Corp., New York, N. Y. Sponsors: G. P. Viegelmann, W. B. Wilson.

Matthew J. Quigley—Chemist & Tech. Reprs., Interchemical Corp., Pawtucket, R. I. Sponsors: J. R. Redmond, H. V. Petelle.

Robert K. Remer—Chemist, Dye Research Labs., St. Charles, Ill. Sponsors: A. T. Brainerd, W. Boyd, Jr.

Donald W. Reisigl—Color Technician, Mohawk Carpet Mills, Inc., Amsterdam, N. Y. Sponsors: E. J. Cogovan, J. J. Hanlon.

Fred Rhodes—Salesman, Commonwealth Color & Chem. Co., Sponsor: A. E. Raimo.

John F. Rogers—Salesman, Clinton Industries, Inc., Clinton, Iowa. Sponsors: C. D. Griggs, J. C. King.

Charles W. Saalfrank—Text. Chemist & Colorist, Sandoz Chemical Works, Inc., New York, N. Y. Sponsors: J. C. Walker, C. H. A. Schmitt.

Albert G. Schaeffer—Chemist, Farbwerke Hochst, Frankfurt. Sponsors: C. Z. Draves, H. E. Hager.

George R. Seidel—Research Div. Head, E. I. du Pont de Nemours & Co., Inc., Newport, Del. Sponsors: W. L. Dills, S. W. Brainard.

Stanley R. Sheeran—Mgr., Sales Serv. & Develop., Vinyl Products Div., E. I. duPont de Nemours & Co., Inc., Wilmington, Del. Sponsors: T. E. Bell, H. D. Terhune.

Robert M. Simington—E. I. dupont de Nemours & Co., Inc., Wilmington, Del. Sponsors: W. G. Hamlen, Jr., R. A. Shimp.

Thomas A. Strachan—Pres., Sales Linen Mills, Portland, Ore. Sponsors: R. M. True, A. McKenzie, Jr.

Edward R. Swing—Supt. of Bleach, Finish., & Dye., Cannon Mills Co., Kannapolis, N. C. Sponsors: A. R. Thompson, D. S. Quern.

Daniel V. Thompson—Dir. of Research, E-Z Mills, Inc., Bennington, Vt. Sponsors: C. W. Dorn, W. E. Coughlin.

Samuel T. Tracy—Dyer, Rockford Mfg. Co., Rockford, Tenn. Sponsors: W. S. McNab, E. V. Helms.

Harold A. Tuthill—Managing Dir., Chemical Research Inst., Miami, Fla. Sponsor: W. Seltzer.

Bendt M. Ubbesen—Dye Technician, J. R. Geigy, S. A., Basle, Switz. Sponsor: B. Gylfe.

William E. Valk—Sales Repres., Interchemical Corp., Text. Colors Div., Pawtucket, R. I. Sponsors: H. V. Petelle, J. R. Redmond.

John O. Vernon, Jr.—Dyer, Renfrew Bleachery, Travelers Rest, S. C. Sponsors: W. L. Barker, D. H. Kennemur, Jr.

Albert H. Weikel—Dyer, Interstate Hosiery Mills, Inc., Lansdale, Pa. Sponsors: J. Clark, A. E. Raimo.

Charles L. Westmoreland—Dyer, McGaugh Hosiery Mills, Dallas, Texas. Sponsors: D. S. Culberson, L. M. Boyd.

Lawrence D. Wornom—Development & Inspection Officer, U. S. Naval Clothing Depot, Brooklyn, N. Y. Sponsors: W. F. Prien, J. C. Busby.

Hector Zucchino—Section Head of Household Products Section, General Foods Corp., Hoboken, N. J. Sponsors: L. W. Elder, H. Thackeray.

JUNIOR

James P. Acquaviva—Supervisory, Inspection & Testing Dept., McGregor Sports Wear Co., Dover, N. J. Sponsors: J. G. Stas, D. E. Bordner.

Leo Beck—Development Engr., Alexander Smith & Sons Carpet Co., Yonkers, N. Y. Sponsors: R. G. Ashcroft, E. A. Leonard.

James H. Campbell—Asst. Dyer, Carolina Insulating Yarn Co., Winston-Salem, N. C. Sponsors: F. E. Sprock, W. S. Sims.

Walter C. Comer, Jr.—Fairforest Co., Columbus, Ga. Sponsor: H. J. Gambert.

Edmund D. Fenton—Chief Chemist & Dyer, Murray Hosiery Mills, Murray, Kentucky. Sponsors: J. Nerl, L. B. MacFarland.

Edward H. Grosse—Text. Chemist, Dan River Mills Inc., Danville, Va. Sponsors: E. A. Calderon, H. Y. Jennings.

Charles M. Horne—Chemist, Ciba Co., Inc., New York, N. Y. Sponsors: H. C. Mullner, R. T. McGuire.

Manuel Lourdes C—Text. Chemist, Mexico, D. F. Sponsors: D. P. Knowland, R. C. Allison.

William B. Mason—Salesman, Onyx Oil & Chemical Co., Jersey City, N. J. Sponsors: W. T. Donahue, P. D. Jacobs.

William H. Mohn—Chemist, Bohn Bros. Co., Reading, Pa. Sponsors: A. E. Koch, M. J. Reider.

Benjamin F. Mullen, Jr.—Dyeing Apprentice, Hanes Dye & Finishing Co., Winston-Salem, N. C. Sponsors: J. H. Orr, C. F. Martin, Jr.

Raymond N. Palen—Color Technician, Mohawk Carpet Mills, Inc., Amsterdam, N. Y. Sponsors: E. J. Cogovan, J. J. Hanlon.

James M. Reynolds—Research Chemist, General Foods Corp., Hoboken, N. J. Sponsors: E. E. Fickett, H. C. Chapin.

Robert W. Roff—Lab. Tech., Ciba Co., Inc., New York, N. Y. Sponsors: S. I. Parker, H. C. Mullner.

Allison K. Scribner, Jr.—Salesman, Virginia Smelting Co., New York, N. Y. Sponsors: J. Balloch, E. H. Keys.

Thomas F. Smyth—Sales Technician, Montgomery Bros., Inc., Philadelphia 45, Pa. Sponsors: J. J. Marshall, A. H. Seitz.

Moses Sparks, Jr.—Chemist, Chicopee Mfg. Co., Chicopee Falls, Mass. Sponsors: S. A. Simon, J. W. Byam.

Charles A. Whitehead—Editorial Work, Howes Publishing Co., New York, N. Y. Sponsors: N. A. Johnson, H. C. Chapin.

ASSOCIATE

Frederick Bank—Chemical & Dyestuff Dept., A.y F. Wiese S.A., Lima, Peru.

Guillermo Botero B.—Chief of Dyehouse, Calceteria Pepalfa, S.A., Medellin, Colombia.

James D. Charlton—Chem. Engr., Socony-Vacuum Oil Co., Inc., New York, N. Y.

Harry L. Drew—Vice Pres. in charge of Textile Div., Masury Young Co., Boston, Mass.

Morton Gordon—Tech. Repres., The Graymore Chemical Co., Inc., New York, N. Y.

Jay J. Harris—Chemical Engr., Chemical Corps, Dept. of the Army, New York, N. Y.

Lester R. Henry—Instructor in Text. Chemistry, N. Y. State Inst. of Applied Arts & Sciences, Utica, N. Y.

Benjamin H. Herzfeld—Dyeing Dept., Burlington Mills Corp. of N. Y., New York, N. Y.

Hans G. Lind—Head of Testing Dept., A. B. Nyborgs Yllefabrik, Norrkoping. Sweden.

Louis J. Manara, Jr.—Text. Colorist, Calco Chem. Div., American Cyanamid Co., Bound Brook, N. J.

Paul E. Mezick—Eastern Dist. Sales Mgr., Chas. J. Haas, Inc., Philadelphia, Pa.

James R. Owens, Jr.—Asst. Tech., Burlington Mills Corp. of N. Y., New York, N. Y.

John P. Patton—Asst. to Gen. Mgr., Smith, Drum & Co., Philadelphia, Pa.

SOLVING CORROSION PROBLEMS IN THE TEXTILE INDUSTRY

RAYMOND B. SEYMOUR and W. L. WORTH, JR.

The Atlas Mineral Products Co.
Mertztown, Penna.

IN SPITE of lack of emphasis on the severity of the problem, corrosion has always been a factor in the textile industry and until recently, because of inadequate information, it has been accepted as an insoluble problem. However, as a result of the application of modern methods of chemical construction to the textile industry, many new plants are essentially free from the customary rapid deterioration even in wet processing areas and steps have also been taken to counteract corrosion in many older mills.

Many mill operations are essentially free from serious corrosion problems and this may account for the general neglect that is evident in those areas subjected to more severe conditions. The desirability for the use of protective coatings in wet processing areas *(19)* and the protection of structures in industries such as food processing *(17)* where corrosion is less serious, have been considered, but little information has been published on the prevention of corrosion throughout the textile mill *(11)*.

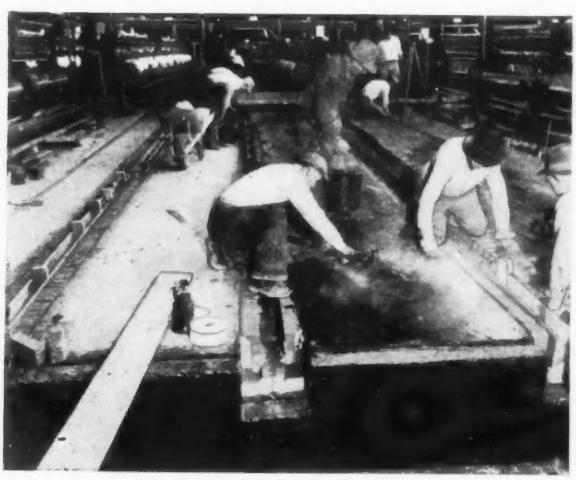
Some consideration has been given to the protection of floors *(6)* since it has been recognized that concrete and its admixtures are not acid-resistant *(1)*, but most of the published information is somewhat vague. Sand, gravel coatings *(5)* and mixtures of coal tar and asbestos *(8)*

Manhole for sewer carrying rayon plant waste. Note method used to dam flow of molten sulfur cement.

have been recommended but none of these remedies has proved satisfactory in this country. Nekrasov *(9)* advocates using gravel covered with hot bitumen under asphalt-jointed bricks covered with an asphalt membrane but the development of furan-based mortar *(10)* for joining acid-resistant brick and tile has made such practices obsolete.

The protection of textile machinery and overhead structures with phenolic *(3)*, polyvinyl chloride, *(2)* and polystyrene *(12)* coatings as well as the use of stainless steel *(18)* has been discussed, but little informtaion suitable for use by textile technologists is available. The necessity for corrosion-resistant materials in the linen industry is obvious *(4)* and newer techniques, such as the continuous rayon process *(7)*, flame-proofing of cotton *(14)*, and the bonded fabrics industry *(13, 16)* would be impractical in the absence of modern materials of chemical construction.

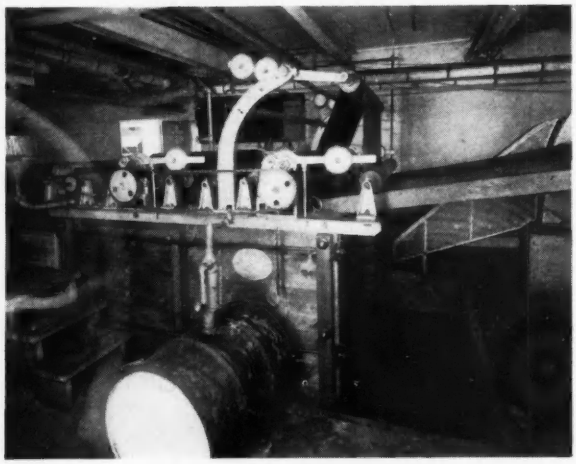
Cotton may be carded and woven without being subjected to corrosive conditions but neutral solutions are seldom used in wet processing techniques and in the absence of protective measures, deterioration of equipment plagues the textile technologist. Steel and wooden tanks have been used successfully for the mercerization of cotton in both the warp and skein processes but iron contributes to discolorization and even with wood it is necessary to protect the surrounding areas from splash and drippings. Wooden vats have been used almost universally for the scouring operation but in several instances, the industry has adopted reinforced concrete tanks lined with an im-



Floor under construction in rayon mill. Center—Spreading asphaltic base. Right—Brick floor jointed with plasticized sulfur cement under construction.

Dyeing and Finishing rooms in a woolen mill. Red shale brick in floor area jointed with plasticized sulfur cement.

Laying of textile mill floor with furan type mortar acid and alkali-resistant cement. Note the method of buttering the brick with mortar and the resultant thin joints.



Wooden dye vat in pit lined with brick jointed with plasticized sulfur cement.

pervious membrane and hard burned shale brick joined with plasticized sulfur, phenolic or furan base cement. Deterioration of the surrounding areas has been prevented by the installation of properly constructed tile floors joined with a furan-type mortar.

Bleaching operations using sodium hypochlorite, sodium chlorite or sodium peroxide require protection of the vessels, surrounding floor areas and overhead structures. The latter may be protected adequately by the application of a plasticized polyvinyl chloride-type coating over a sandblasted surface. This sandblasting operation can be eliminated by the use of vinyl-base wash primer systems if the surface is free from water, grease, loose rust and scale provided several coats of vinyl base finished are applied over the primer. Earthenware, glass or cement-lined tanks may be used for preparing and holding hypochlorite solutions and Monel metal is satisfactory for processing equipment provided the available chlorine is less than 3 g. per 1. Ceramic or wooden tubs are satisfactory but Monel metal is attacked by alkaline sodium peroxide.

The dyeing process operates at various conditions of pH *(15)* and while the deterioration may often be minimized by the use of wooden tanks, these have been replaced by newer alloys. Steel may be used for alkaline dye baths providing the system remains at a pH above 7.0 but corrosion-resistant equipment is essential when acid exhausting agents are added. Dye becks and vessels used for acid dye baths are generally wood, Monel or alloy steel but steel protected by an impervious membrane and brick joined with a furan-based mortar have given satisfactory service.

Entire floor areas in finishing plants are now designed in accordance with standard specifications for industrial acid floor construction. Because of the relatively light mechanical service, a ¼″ asphalt membrane over the concrete base can be protected with floor brick 1⅜″ or 1½″ in thickness and measuring approximately 8¼″ x 4″ or 12″ x 6″ respectively, on the surface. A furan base cement is generally used in the exposed vertical joints and in the bedjoint which provides uniform sloping to drains. Wall areas are protected from solution splashes by a wainscot constructed of acid floor brick first laid in a cement-sand mixture. The exposed joints are raked out to a depth of at least ½″ and then pointed with a furan base cement to yield a structurally stable wall 2 to 3 feet in height with good corrosion resistance at minimum expense.

The disposal of wet-processing liquors presents a serious problem unless vitrified clay or other corrosion-resistant pipe is used. In either case, joints resistant to the liquor, such as a combination of jute impregnated with a furan or phenolic base mortar and sulfur compound must be used. Trenches and settling basins must also be constructed of corrosion-resistant materials.

The frequency of occurrence of corrosion problems in the textile industry is usually a function of the number of wet-processing steps and hence the need for protection in wool processing is greater than in the cotton industry. Scouring may be conducted in steel or wooden vats but the surrounding areas must be protected from splash and drippings as discussed previously for the mercerization of cotton. Washing of carbonized wool to neutralize the residual sulfuric acid also requires corrosion-resistant vats protected by rubber, phenolic or vinyl based coatings. The use of shrink-proofing processes based on acid or alkaline hypochlorite or acid-set melamine resins has also presented new problems for the textile corrosion engineer.

In modern plants, floor, trench, sump and pit areas are constructed with membrane, brick and cements having resistance to the various processing solutions. Wet finishing and drug room floors, for example, follow the pattern of industrial acid flooring in which a reinforced, smooth trowelled sub-base is protected with a ¼″ asphaltic type membrane and acid brick usually 2¼″ in thickness joined with a plasticized sulfur base cement which is also used as a bedjoint.

Flume construction under acid-proof floor areas in woolen mills normally follows customary trench specifications using glazed liner plate roof construction. Many mills have found it necessary to install corrosion protection to already existing flume or trench areas. Since drainage in this type of unit will not generally exceed 4 to 6 inches even under the most severe conditions, a single sized acid brick, either buff or red shale colored, may be used for the floor area and for the walls to a height of approximately 1 foot. The remainder of the upper wall areas and the interior of the roof slab may be protected with a modified polyvinyl chloride coating.

All methods of rayon manufacture including the obsolescent Chardonnet process require proper precautions to minimize destruction of buildings and equipment resulting from corrosion. Spinning buckets are often constructed of phenolic resin as are the advancing reels in the continuous process *(7)*. Floors and overhead structures may be protected by methods similar to those used for wet processing of textiles. Bricks joined with sodium silicate mortar containing an acid setting agent and agregate may be used for floors in acetate rayon plants providing

they are not subjected to alkaline rinses but such are not satisfactory for the cuprammonium or viscose processes. Occasionally plasticized sulfur compound joints may be used for some areas with the latter process as shown in subsequent engineering data but these must not be subjected to steam or strong alkaline conditions.

There is similarity between the first step in the manufacture of viscose rayon and the mercerization of cotton and the techniques employed to counteract corrosion in the two processes are somewhat alike. Each additional step requires a study of the existing conditions and through a cooperative effort of textile and corrosion engineers, modern rayon plants have been designed to resist corrosion throughout the entire process.

Spinning, cake wash, acid recovery areas, caustic tanks, and jet rooms of rayon plants require acid and alkali-proof construction. The base reinforced trowelled finish concrete slab for the floor areas must be finished and sloped to drains. After complete curing, the concrete slab is coated with an asphalt primer and then approximately a ¼" inch thickness of an asphaltic type membrane is screeded, trowelled or mopped on the area. The floor brick is usually buff colored 12" x 6" x 1½", red shale 8" x 3¾" x 2¼", or red shale 8¼" x 4" x 1⅜" depending on the owner's desires for physical appearances and in some instances cleanliness. The jointing compound may be a plasticized sulfur base cement if no alkalis are present, or a furan base cement, which is resistant to both acids or alkalis, may be used in the vertical or exposed joints or with an additional bedjoint as shown in Figure 1.

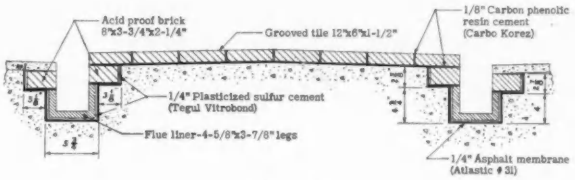

Acid proof brick 8"x3-3/4"x2-1/4"
Grooved tile 12"x6"x1-1/2"
1/8" Carbon phenolic resin cement (Carbo Korez)
1/4" Plasticized sulfur cement (Tegul Vitrobond)
Flue liner-4-5/8"x3-7/8" legs
1/4" Asphalt membrane (Atlastic #31)

Figure 1

Trenches are usually designed to receive flush plank covers which rest on acid single brick (8" x 3¾" x 2¼") laid lengthwise on the walls. For wall construction, a back-joint of the acid or acid and alkali-proof cement is always applied for structural stability in addition to its acid proofing feature.

Fume stacks with related plenum chambers are usually lined with acid red shale double-sized brick or single-sized buff circle brick. A single course 4" or 4½" in thickness is generally sufficient protection for the asphaltic type membrane, a plasticized sulfur base cement being used for the back-joint and a furan base cement in the exposed joints. It might be noted that expansion joints should be installed at the junction of the inlet and exhaust plenums with the stack. This expansion joint should extend through the concrete roof, wall and floor slab.

Recent legislation restricting stream pollution in a number of states has necessitated installation of neutralization tanks and pits. These units are generally constructed of a reinforced concrete, shell-lined with a triple layer asphaltic type membrane and two courses of acid brick joined with plasticized sulfur base or furan base cement or a combination of both using a dual type construction as previously described; exact construction details based on economy of construction and stability and length of service must be determined after a careful analysis of the service conditions and construction factors affecting the design. Inlet and outlet connections pose a special construction detail which may best be shown in Figure 2.

Many additional examples of corrosion protection might be cited. However, they are generally duplications, or at most, slight modifications of the constructions described before. The examples given should suffice to show that the textile industry in cooperation with the manufacturer of corrosion resistant materials is constantly moving forward toward the goal of maximum quality production at minimum costs.

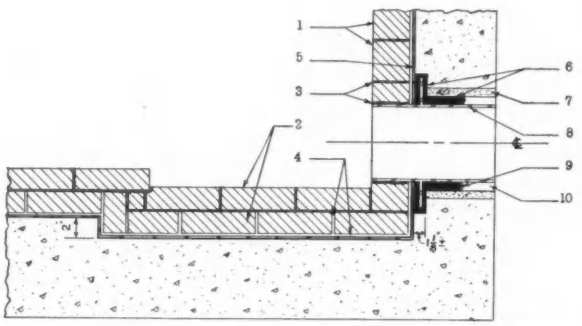


Figure 2

1. Acid proof brick 8" x 3¾" x 4½"
2. Acid proof brick 8" x 3¾" x 2¼"
3. ⅛" Furan resin cement (Alkor)
4. ¼" plasticized sulfur cement (Tegul Vitrobond)
5. ⅜" Triple layer membrane (Atlastiseal)
6. Asphalt fill (Atlastic No. 31)
7. Terra cotta sleeve—10" I.D.
8. Stainless steel pipe—8" I.D.
9. Asbestos rope driven tight against asphalt (Atlastic No. 31) before plasticized sulfur cement (Tegul Vitrobond) is poured
10. Plasticized sulfur cement (Tegul Vitrobond)

Literature Cited

(1) Frische, G., "Deut Farber—Ztg," *76*, 426-30 (1940).

(2 Hausen, J., "Bautenschutz," *11*, 165-9 (1940).

(3) Hempel, C. H., "Rayon Textile Monthly," *18*, 595 (1935).

(4) Klinov, Iya, and Grigor'ev, N. K., "L'no-Pen'ko Dzhutovaya Prom.," *7*, No. 1, 46-57 (1937).

(5) Kogel, L., "Spinner U. Weber," *56*, No. 9, 42-6 (1938).

(6) Kurek, N. W., "Stroitel Prom.," *22*, No. 5, 623-4 (1944).

(7) "Modern Plastics Encyclopedia," 188 (1949).

(8) Moskvin, V. M., and Nekrasov, K. D., "Stroitel Prom.," No. 4, 24-5 (1941).

(9) Nekrasov, K. D., ibid, No. 3, 18-20 (1941).

(10) Payne, C. R., and Seymour, R. B., U. S. Patent 2,366,049 (Dec. 26, 1943).

(11) Rammensee, H., "Klepzig's Textil," *2*, 42, 481-2 (1939).

(12) Sargent, E. H. G., "Textile Mfr.," *72*, 629-32 (1946).

(13) Seymour, R. B., "Am. Dyestuff Reptr.," *38*, 453-4, 480 (1949).

(14) Seymour, R. B., Crunley, J. A. Agnew, W. G., and Kelly, A. J., "Am. Dyestuff Reptr.," *37*, 10-15 (1948).

(15) Seymour, R. B., Agnew, Wm., Crunley, J. A., and Kelly, A. J., "Am. Dyestuff Reptr., *37*, 689-90 (1948).

(16) Seymour, R. B., and Schroeder, G. M., "Paper Trade J.," *128*, No. 13, 16-18 (1949).

(17) Sheppard, W. L., "Food Ind.," *19*, 1656-9, 1757 (1947).

(18) Triven, M., "Textilwezen," *2*, 547-53 (1946).

(19) Vincent, G. G., "Can. Textile J.," *57*, No. 12, 38, 40 (1940).

• PATENT DIGEST •

PAUL WENGRAF

Shrinkproofing Wool—Chloroprene Polymers Used A, 2, 04

U. S. Pat. 2,471,456
(Montclair Research Corp., J. B. Rust, May 31, 1949)

Wool in any form (raw, yarns, knitted, woven or mixed goods) can be shrinkproofed with a synthetic chloroprene polymer, optionally mixed with other polymers, latices or the like. The amount of the chloroprene polymer used is limited to not less than 1% and not more than 25% based on the weight of the wool material. The best effects are obtained with the chloroprene polymer alone or with co-polymers of chloroprene with butadiene 1-3 or homologs thereof (isoprene, dimethyl butadiene, ethyl- and methoxybutadiene, etc.). It has been observed that straight polychloroprene gives a very satisfactory effect but a harsh feel while straight polybutadiene imparts a sticky or greasy hand. Obviously many modifications can be developed according to the specific effect desired by co-polymerizing the above mentioned products with acrylates, styrene derivatives, acrylonitrile and the natural latices. Many examples of the effect of these various mixtures are offered in tables, illustrating the resistance to shrinkage by using blends of polychloroprene with polyethylacrylate, with vegetable oil factice or with polymethylmethacrylate. After 3 hours washing only a negligible shrinkage (if any) occurred when the major part of the composition consisted of polychloroprene. The effect decreased considerably by using (for example) 40% polymethylmethacrylate added in form of commercially available emulsions known under the tradenames of "Rhoplex ER", "Neoprene Latex Type 571" and the like. The fabrics were padded, dried at 60°C. and repeatedly washed.

References cited by the Patent Office, among others:

U. S. Pat. 2,340,358, 1944 (U. S. Rubber) Fabrics were treated with latex compositions or with dispersions of water insoluble resin agglomerates in macroscopic size; lump formation was prevented by adding protective colloids.

U. S. Pat. 2,029,410, 1936 (Du Pont) Chlorobutadiene is polymerized in the presence of a fiber forming material (e g., a resin, a cellulose derivative or polymerizable unsaturated oils such as China Wood Oil, to prevent shrinkage.

For other references see also: U. S. Pat. 2,406,958 (Du Pont), REPORTER 1947, 37, referring to nonsaturated hydrocarbons as shrinkproofing agents and French Pat. 911,855 (Montclair Research), abstracted in REPORTER 1947, 336, in which vinyl polymers are used for the same purpose.

A theoretical explanation of the shrinkproofing effect brought about by resinous compounds has been offered by Royer, Maresh and McCleary in *Textile Research Journal*, Aug., 1949, p. 449-461.

Delustering—Vinylidene—Vinyl-Polymers F, 3, 02

U. S. Pat. 2,476,069
(Wingfoot Corp., Snyder, July 12, 1949)

Co-polymers, having a high proportion of vinylidene chloride and a small proportion of vinyl chloride or another vinyl ester have a glossy appearance which is particularly unfavorable when these filaments are used for manufacturing window or door screens. It has been found that filaments consisting of a co-polymer of 70-95% of vinylidene chloride and 5-30% vinyl chloride can be delustered by swelling the filaments first with a solvent or partial solvent and reducing thereupon the swelling effect. The solvent causes swelling by diffusion while the following aftertreatment generally carried out with boiling water or steam has the effect of destroying the original luster, probably by a superficial precipitation of the co-polymer which has been transformed into a gelled state during the swelling action. Screens formed from these fibers no longer reflect transmitted light. Cyclohexanone, alone or mixed with methylethylketone, proved to be a superior solvent and swelling agent for these fibers but in general other organic compounds containing a keto group can be applied. They may be optionally blended with other solvents or plasticizers such as phthalates, sebacates, esterified coconut oil, alkylphosphates, and so on. One of the examples describes delustering a co-polymer filament, consisting of 90% vinylidene chloride and 10% vinylchloride, by passing the threads through a bath of cyclohexanone at 115°C. and then immersing them in boiling water. Another example suggests the delustering of a screen fabric, composed as above, by leading it through a bath of 35% methylethylketone + 65% cyclohexanone (this time at 60°C. only). The solvent is removed by shaking while the delustering process consists of a steam treatment.

References cited by the Patent Office:

U. S. Pat. 2,277,782, 1942 (Carbide & Carbon): stretched vinyl fibers, capable of contraction are incorporated in a glass fiber fabric; the goods are caused to shrink thereafter to give crimped products.

U. S. Pat. 2,233,442, 1941 (Dow Chemical): thin polyvinyl filaments (diameter less than 0.1 in.) are obtained in a heating, stretching and cooling operation.

Printing Indigosols—Adding Alkyl—or Alkylene Aniline Sulfonic Acid Salts D, 2, 04

U. S. Pat. 2,474,785
(American Cyanamid Co., W. B. Hardy, E. M. Hardy, June 28, 1949

The present specification should be studied in connection with U. S. Pat. 2,466,656 (of the same inventors, assigned to the same company) abstracted in REPORTER 1949, 522. While the older patent protects a printing process with Indigosols sensitive to overoxidation which consists of adding naphthol- or naphthalene sulfonic acid salts as "accelerators", the present method comprises an analogous addition of alkyl- or alkylene—substituted aniline sulfonic acids or water soluble salts thereof. The substituent in the aniline sulfonic acid is an aliphatic hydrocarbon radical having not more than one double bond. The specification enumerates among the typical compounds, used in this process sulfonic acids of toluidines, xylidines, cumidines, diethylaniline, di-allylaniline or the like. The position of the sulfonic group is not essential. It is emphasized that the method is strictly limited (as in U. S. Pat. 2,466,656) to difficultly oxydizable Indigosol dyes applied in the dichromate printing process and followed by an acid aging development. According to an example the Indigosol of tetrabromo-indigo is blended with 2-amino-3-5-dimethylbenzene sulfonate of sodium and pasted with dichromate, urea and ammonia. After acid steaming the full color is developed, while in absence of the metaxylidine sulfonate only 10-15% of the color value is obtained even in a 10-min. ageing process.

U. S. Patent Office mentions among others as reference U. S. Pat. 2,234,301, 1941 (quoted in REPORTER 1949, 522), comprizing acid oxidation in the presence of a protective substance such as hydroquinone, pyrocatechol, etc.

TRADE NOTES • NEW PRODUCTS

L. & N. Electro-Chemograph

• Electro-Chemograph

Leeds & Northrup Company, Philadelphia 44, Pa., manufacturers of electrical measuring instruments, announce that their engineers have designed for rapid, accurate polarographic analyses, a new L&N Type E Electro-Chemograph which features one-piece console design incorporating a built-in Speedomax Recorder. Exceptionally flexible and stable, the instrument is said to be convenient for both research and industrial process control laboratories.

L. & N. suggests that the instrument can be used to ascertain the ingredients of a composite dye mixture, or other analytical procedures, though the method has not yet been applied in full within the industry. It is said that similar applications should be apparent in the analysis of numerous solutions such as bleach solutions, fillers, weighting materials, etc.

The electro-chemograph, which is constructed to rest on normal laboratory benches and is about 24″ x 30″ x 20″, is said to be especially applicable to most organic analyses and may be of immeasurable aid in speeding up or displacing certain quantitative procedures of measuring.

Like the previous model of this L. & N. equipment, the Electro-Chemograph automatically plots diffusion current as a function of voltage. Now, however, the data-taking is done by a Speedomax Microampere Recorder, which is claimed to provide greater speed of analysis and more complete detail of tests results. A typical test run can now be made in about half the previous time, it is stated.

A full range of variation in test technique is available through a set of controls, all centralized on one panel. Choice of four degrees of damping enables the user to obtain a record that presents qualitative and quantitative data in the desired detail. Eleven current ranges cover full-scale readings.

There are three polarizing voltage ranges any of which can be reversed in polarity to cover both anodic and cathodic polarization. Time to run through a polarizing range is ten minutes. Voltage can be adjusted to ±4 mv by calibration against an integrally-mounted standard cell, it is claimed.

When it is desirable to obtain several different diffusion current curves on the same chart for intercomparison, the recorder zero can be readily shifted to separate the individual curves, it is stated.

It is further stated that the equipment is shielded against electrical pick-up, and is not affected by vibration. Normally it is supplied for a-c operation, but it can be supplied for use with a battery for the polarizer.

• Dr. Kise Named Director

Dr. Mearl A. Kise has been named Director of Research and Development of the Virginia Smelting Company, Chemical Manufacturers, West Norfolk, Virginia.

Dr. Kise was formerly Assistant Chief of Research for the Solvay Process Division of the Allied Chemical and Dye Corporation with whom he has been associated since 1935.

"Virginia's" new Research Director was graduated from Lehigh University, Class of 1930 with a B. S. degree, received his Ph.D. at Yale University in 1933, following which he did post-doctorate work as Senior Research Fellow for the Textile Foundation, also at Yale. He is a member of Phi Beta Kappa and Sigma Xi honorary fraternities as well as a national counselor for the Virginia Section of the American Chemical Society. He is also a member of the Armed Forces Chemical Association. Scientific contributions include several patents among which are those relating to the shrink-proofing of wool, resinous coatings for the paint and varnish field and patents covering the synthesis of detergents.

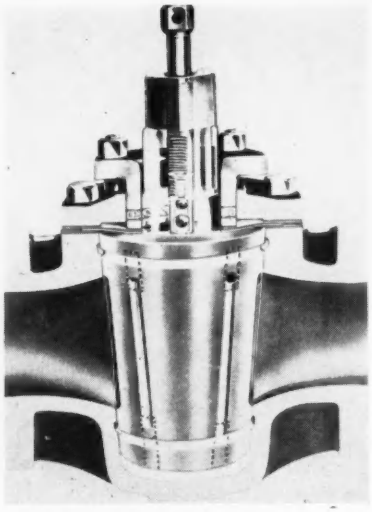
Dr. Mearl A. Kise

Dr. Kise will make his home in Portsmouth, Virginia.

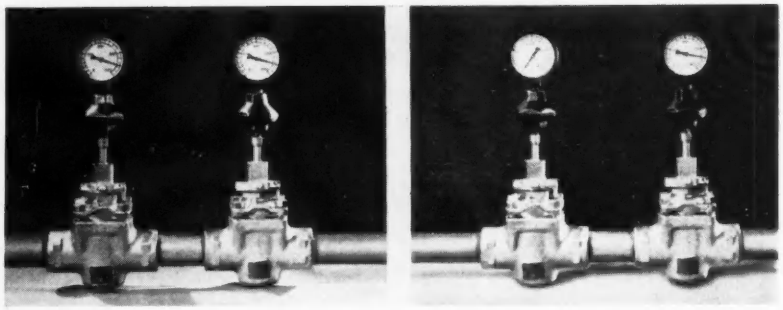
• Dr. Wicks Transfers

Dr. Zeno W. Wicks, formerly with the Finishes Division of Interchemical Corporation, has recently transferred to the Textile Colors Division, Fair Lawn, N. J., where he will carry out special research and development projects on pigmented emulsions for textile applications. Dr. Wicks first joined Interchemical Corporation in 1944 as a research chemist in the Central Research Laboratories. More recently he has been Technical Manager of the Finishes Division—Pacific District. He is a graduate of Oberlin College and received his Ph.D. from the University of Illinois. Dr. Wicks is a member of Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon, Phi Beta Kappa, the American Chemical Society, and the Paint and Varnish Production Club.

Dr. Zeno W. Wicks



X-sectional view of Nordstrom standard valve showing lubrication grooves.



Comparative Tests Showing Pressure Retention. At left, both valves pressurized at 350 psi. At right, same valves six months later. Valve pressure of non-energized lubricant has dropped to 0 psi while that of energized lubricant shows negligible decline.

• Automatic Lubrication For Pressurized Plug Valves

In the use of pressurized plug valves on lines carrying oil, water, gas, chemicals, slurries, etc., the one objection voiced by engineers is the necessity of frequent re-lubrication. Now this obstacle is reported eliminated with the creation of automatic lubrication, by the Rockwell Manufacturing Company, 400 N. Lexington Ave., Pittsburgh 8, Pa. The new system of lubrication does not require the investment in mechanical force-feed devices and is applicable to the more than 5,000,000 valves of the Nordstrom type now in service, it is said.

Christened "Hypermatic," this lubricant is said to be both compressible and expansible and to embody dynamic properties wherein energy may be stored for prolonged periods to give automaticity to its feeding action. Therefore, should a lubricated plug valve of the Nordstrom type "spring" a leak, the automatic force-feed action of Hypermatic is claimed to instantly seal the void. If the valve has been neglected, it reportedly keeps itself in a state of 100 per cent lubricated condition and remains energized. Pressure does not quickly decline but may remain for months, it is stated.

In a lubricated plug valve, lubricant is said to be used for three purposes: (1) To maintain a film on the unexposed seat to permit easy turning of the plug; (2) To form a pressurized seal around each port by the use of connected grooves on the plug and within the body; and (3) To act as a hydraulic jack to raise the plug slightly off its seat if the plug ever becomes hard to turn. Lubricant is introduced into the valve through a hole in the shank of the plug. Sticks of lubricant are dropped into the hole and a lubricant screw is inserted, which when turned, is said to exert powerful hydraulic force to transmit the lubricant through the channels. This force, however, deteriorates in case of leakage; hence, constant pressure is desirable so that pressure at any level will effectively push the necessary amount of lubricant into the void, the company states. In a recent bulletin the company said:

"Hypermatic is the 'missing link' to effect automatic action and with being compressible, from 50 to 100 per cent more can be inserted and stored for future use. Turning of the lubricant screw builds up the energy similar to the action of a door check which stores energy to automatically close the door. Any amount of pressure can be built up within the valve but the lubricant will actuate with a pressure of as low as 50 lb. In very high pressure service the energy is built up to 1000 lb. and higher. It is self-feeding even though the line pressure is greatly in excess of the valve's internal lubricant pressure. Hypermatic is volumetrically flexible; it is self-sealing; self-acting; less lubricant is used because the operator neither over-lubricates nor under-lubricates the valve. When pressure is finally exhausted Hypermatic functions the same as a non-energizable valve lubricant, but by again turning the lubricant screw a few revolutions or by replenishing the supply of sticks (or use of pressure gun), re-energization takes place. Of the more than 5,000,000 plug valves of the Nordstrom type, more than 75 per cent are immediately receptive to this lubricant on temperature lines from sub-sero to at least 250°F. Tests are now being conducted to increase the temperature range. The manufacturers of Nordstrom valves claim that savings of many million man-hours per year will be made by its use, without present users investing a cent in equipment, because re-lubrications will only take a fraction of time previously consumed by maintenance men."

Hypermatic is the most revolutionary development since the introduction of Nordstrom valves 30 years ago, according to W. F. Rockwell, Jr., President of the company. George F. Scherer, since 1927 Director of Research for Rockwell's Nordstrom Valve Division, conceived Hypermatic. The research laboratories are in Okland, California, where the lubricant has been in process of development for years.

A bulletin giving detailed information and answering questions regarding Hypermatic has been prepared and may be obtained by writing to the Rockwell Manufacturing Company.

• New Dye Family

The first of an entirely new family of dyes for cellulose acetate fibers—Eastone Red GLF—has been announced by Tennessee Eastman Corporation, Kingsport, Tenn. The new dye is said to be exceptionally fast to light even in pastel shades, and to far surpass any known acetate red in this respect. Other properties claimed for it include excellent fastness to gas fading, sublimation, crocking, and hot pressing, as well as very good fastness to perspiration and washing. Very good dischargeability is also reported.

Eastone Red GLF is a homogeneous, highly dispersed dye which produces a medium shade of red with a yellow cast. It is said to possess good exhaustion and level-dyeing characteristics with very good penetration and build-up at temperatures of from 160°F. to 190°F. Information and samples of this new dye are obtainable.

The Corporation also announces the immediate commercial availability of a straight, direct acetate brown, Eastone Brown 2R, in the line of Eastman Acetate

Dyestuffs. This dyestuff dyes acetate fibers a reddish brown and nylon a slightly duller shade. Unique shade and fastness properties attributed to Eastone Brown 2R are said to make it a valuable color for shading and for producing deep tertiary shades on a variety of fabrics which must meet certain fastness requirements. It is highly recommended by the manufacturer as the base color, in conjunction with the gas-resistant azo blues, in formulating lining shades.

The designation "Eastone" identifies this dye as belonging to Eastman's series of dyestuffs which are dischargeable, as well as usable for plain dyeing.

Shipments of Eastone Brown 2R will be made from the Corporation in Kingsport, Tenn., and Lodi, N. J., and in Canada through Clough Dyestuff Company Ltd. in St. Laurent, Quebec.

• Combination Jig with Pad Attachment

John Verduin Machine Corp., 345-357 Tenth Avenue, Paterson, New Jersey, announces an improved combination jig with pad attachment. It is stated that any fabric that can be jigged or pad dyed can be processed on this unit. The machine operates at speeds constant from approximately 40 to 120 yards per minute. Perfect shading is said to be accomplished. It is stated that one of the outstanding features is the time saved in dyeing, amounting to as much as 50 per cent on a good many numbers. Fabric can be removed from the unit with the excess moisture squeezed from it, thus expediting drying. Finishes may be applied if desired. The machine can be operated either in the conventional manner or with the use of the pad. It is stated that the loading and unloading method is an improvement inasmuch as there is control of the beaming-up.

Left to right—J. R. Clendenning, A. C. Smith and Orum R. Kerst.

• Laboratories Research Set Up

Dr. Edward Abrams has left the Institute of Textile Technology, Charlottesville, Va., where he was head of the Biology Division for the past three years. Previous to that, he was head of the Microbiological and Microscopy Laboratories at the National Bureau of Standards in Washington, D. C.

Dr. Abrams has set up a laboratory called Laboratories Research in Mamaroneck, N. Y. and will act as a consultant in the fields of prevention of microbiological deterioration of organic and fibrous materials, stream pollution abatement, and general bacteriological and biochemical problems.

• E. F. Houghton & Co. Changes

Several changes in the Eastern Sales Division of E. F. Houghton & Co., Philadelphia, manufacturers of industrial oils, chemicals and leathers, have been announced by D. J. Richards, vice president of sales.

The division itself has been split into two sections: Eastern Sales North, which will include New England and New York State, and Eastern Sales South, including Pennsylvania, New Jersey and Delaware. Orum R. Kerst will head the north section, and J. R. Clendenning will take over the south, Richards said.

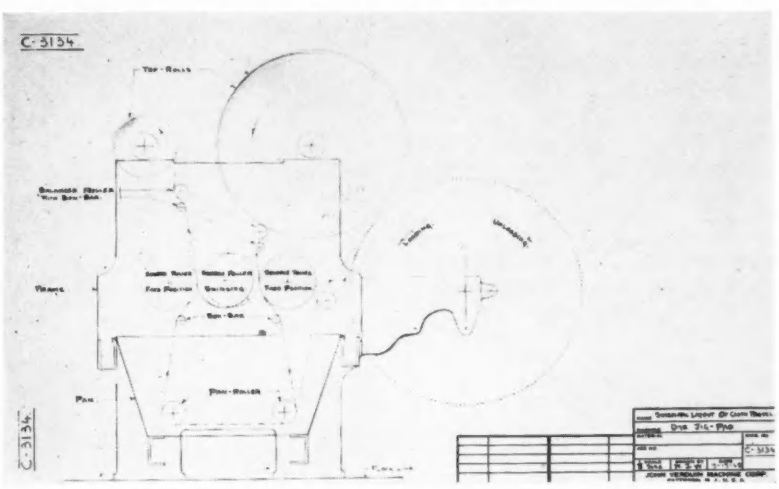
A. C. Smith, former assistant to the eastern sales manager, has been promoted to the newly created post of sales coordinator for the two eastern sections.

Mr. Kerst will continue to make his headquarters in Worcester, Mass. while Mr. Clendenning's headquarters will be in the company's main office in Philadelphia.

• Quartermaster Corps Pamphlet

A pamphlet entitled "How To Do Business With the Quartermaster Corps" has been issued by that organization and is available to business men and others interested in Q. M. procurement on request by writing: Department of the Army, New York Quartermaster Purchasing Office, 111 E. 16th Street, New York 3, N. Y.

It is designed basically as a guide to manufacturers and regular dealers interested in selling to the Corps. What they buy and how the prospective supplier can participate in their purchasing program are described.



Drawing of the Verduin Combination Jig with Pad Attachment

"MorService" Drum Cradle Truck

• "Fulcrum Action" Drum Truck

Incorporating fulcrum action at two points on a straight rocker, the new MorService Drum Cradle Truck enables one man to easily and safely handle drum loads up to 500 lbs. according to Morse Mfg. Co., Inc., Syracuse 2, N. Y. The straight rocker feature enables the operator to position the nose of the truck close to the bottom chime of the drum where a truck stands upright alone, permitting the operator to roll the drum over a safety catch located on the nosepiece. Drum and truck are then tilted as one unit to horizontal draining position with little effort and absolute safety aided by 2-Point Fulcrum Action, it is stated. The truck is equipped for portability with large 3" diameter wheels mounted on extra strong ½" diameter axles. Constructed of high grade angle iron, it is electrically welded for maximum strength and finished in red, rust-resistant enamel. The manufacturer is a pioneer producer of a complete line of Drum, Barrel and Carboy Handling Equipment, and has recently introduced The Rotator (a portable, motorized drum cradle truck for mixing small batches of liquids, semi-liquids, powders, etc., in cylindrical containers from 1 gal. up to 55 gal. sizes, and for tumbling small parts and cleansing the inside of used cylindrical containers.)

• OTS Wear-Tester

An improved wear-testing machine is expected to provide more accurate predictions concerning the durability of textiles, according to a report now available from the Office of Technical Services of the U. S. Department of Commerce, Washington 25, D. C.

The machine, developed for the Army's Quartermaster Corps by a noted German technologist who was brought to the United States for this purpose, is a multipurpose abrasion tester, designed to simulate the various conditions causing wear on textiles during normal service life.

The machine described in the report has been under test for a year, and seems to have demonstrated remarkable usefulness. The results obtained from its tests have correlated closely with those revealed through actual controlled wear tests also being carried on by the Quartermaster Corps.

The report includes an introduction to the problems of measuring wear factors; a description of the construction and operation of the machine; and a discussion of the control of abrasive conditions for testing. Macro- and micro-wear patterns are pictured and analyzed. The precision of the machine is estimated in detail.

PB 98014, *An Improved Multipurpose Abrasion Tester and Its Application for the Evaluation of the Wear Resistance of Textiles,* (Textile Series Report No. 54) is available from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., at $1.25 per copy. Orders should be accompanied by check or money order payable to the Treasurer of the United States.

A list of titles in the "Quartermaster Textile Series" may be obtained from the Office of Technical Services on request.

• Canadian Company Formed

Jack Frye, President of General Aniline & Film Corporation, 230 Park Ave., New York 17, N. Y., announced the formation of a Canadian company known as Chemical Developments of Canada, Ltd., which is owned jointly by General Aniline and Standard Chemical Company, Ltd. of Canada. Mr. Frye said that the newly formed company will manufacture, in Canada, organic chemicals based upon "know how" and assigned patents of General Aniline.

Many of the proposed products have not been produced heretofore in Canada.

It is said that the wide experience of General Aniline & Film Corporation in the chemical field will enable the new Canadian company to escape many of the problems normally attending initial manufacture and should ensure its rapid progress to an established place among the chemical industries of Canada.

The products first to be manufactured by Chemical Developments of Canada, Ltd., will be a group of synthetic nonionic detergents utilizing ethylene oxide as a raw material. The engineering and design of a new plant for this purpose is well advanced.

Chemical Developments of Canada, Ltd. is said to have an authorized capital of fourteen million dollars. Stock ownership is divided between the above-named originating companies in the ratio of 51% to 49%, with Standard Chemical Company, Ltd., holding the majority shares, it is stated.

• Flexible Wash Bottle

A new, all plastic wash bottle (marketed as the "Royalton Wash Bottle") is now available for laboratory use according to an announcement by Meyer Scientific Supply Company, 221 Atlantic Avenue, Brooklyn 2, New York. Made entirely of flexible Polyethylene plastic, a gentle squeeze of the bottle is said to eject a strong, easily controlled stream of fluid. One hand operation is claimed offer a decided improvement over previous types which are often unsanitary or inconvenient.

Polyethylene has been found to be an ideal plastic for this purpose because of its high resistance to corrosion. The toughness and durability are said to make this wash bottle a dependable laboratory tool. Breakage is eliminated because the bottle cannot break or crack if it is dropped, it is stated.

It is further stated that laboratory workers will find this an extremely convenient wash bottle for use with distilled water or commonly used laboratory acid and alkaline solutions.

Three bottle capacities are available, 125 ml, 185 ml, and 250 ml.

Further information can be obtained from the Meyer Scientific Supply Co., Inc., the sole distributor.

Royalton Wash Bottle

SANDOZ PRESENTS

the color achievement of the month

Arden Forest

...by Pacific Mills

Standing on the threshold of 1950, this suit fashioned in Pacific Ravona—a new cross-rib fabric, 100% virgin wool—typifies the new color interest of the coming fashion season.

To preserve the color life of their Ravona fabrics, Pacific Mills uses Sandoz dyes, and depends upon Sandoz technical ability to keep a step ahead in color.

The latest addition to the Sandoz line is

BRILLIANT ALIZARINE LIGHT BLUE 3F Pat.

which brings a solution to the problem of hard-to-make-fast green shades. Using this brightest and fastest-to-light of the Alizarine Light Blue series with XYLENE LIGHT YELLOW 2G as a base, you will have no trouble with the light stability of your bright greens. *Write us for a sample.*

And for any chrome, acid or direct dyes...or auxiliary chemicals...for both natural and synthetic fibres...be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC.

61 VAN DAM STREET, NEW YORK 13, N.Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SAND*thinks ahead with textiles*

SANDOZ

TH

Octobe

Recent installation of Gaston County "automatically controlled" Package Dyeing Machines, Extractor, and Dryers.

THESE FULLY AUTOMATIC MACHINES ASSURE PRE-DETERMINED DYEING RESULTS

Gaston County features that save time and money; eliminate costly guesswork and waste . . .

POSITIVE CONTROL . . . From the loading to the unloading of the kiers, every phase of the dyeing operation is under positive control. Less skilled help is required because all machines are equipped with automatic temperature controls, automatic dye liquor flow reversing mechanisms, patented two-way running wash system, and dye liquor flow controls.

ACCURACY IN MATCHING COLORS . . .Robot DYEMASTER controls provide permanent records for matching colors quickly and perfectly.

FLEXIBILITY . . . Machines designed for package dyeing only can be furnished for 1⅝", ⅝" perforated tubes, spiral springs, wool tops, Barber-Coleman cheeses, or any other size perforated tube.

ALL MACHINES AVAILABLE IN STAINLESS STEEL OR NICKEL IRON . . . Extremely compact in design, machines are available in single or multiple kier set-ups, ranging from 1 to 2000 pounds. We also build Combination Beam and Package Dyeing machines.

GASTON COUNTY

Albert R. Breen
80 East Jackson Blvd.
Chicago, Ill.

Gaston County Dyeing Machine Co.
Terminal Building, 68 Hudson St.
Hoboken, N. J., G. Linder, Mgr.

The Rudel Machinery Co., Ltd.
614 St. James St., W. Montreal
137 Wellington St., W. Toronto

GASTON COUNTY DYEING MACHINE CO.

STANLEY, NORTH CAROLINA, U. S. A.

LOCUST BEAN GUM

THE BEST QUALITY IN THE WORLD
IS IDENTIFIED BY THIS TRADE-MARK

FOR

PRINTING • SIZING • FINISHING

COTTON • WOOL • RAYON

Originated and produced since 1930 by

S. A. Cesalpinia — M. Hefti & Company

MILANO, ITALY

Via Felice Casati — 44

FACTORIES:

Milano — Bergamo — Siralusa — Napoli

Pozzallo — Rosolini

THE VERY BEST IN QUALITY—THE TRADE MARK OF THE LOCUST TREE

U. S. AGENTS

DUVEKOT & CO., 92 Liberty St., New York City

Telephone — WOrth 2-3125

even
a child
can
feel
the
difference!

Soluble
LUXOLENE

THE SUPERIOR FINISHING OIL FOR FINE COTTONS, RAYONS, ACETATES

It's the rule of the thumb—the feel of the fabric that often makes the sale!

DREW SOLUBLE LUXOLENE will give your fabrics the finishing touch that distinguishes them above all others. For **SOLUBLE LUXOLENE** has no equal in imparting a soft, mellow, full-bodied hand with exquisite draping qualities. Even a child can *feel* the difference.

DREW SOLUBLE LUXOLENE resists oxidation, scorching, discoloration and the development of odors.

Send for a generous sample of SOLUBLE LUXOLENE today and prove to yourself that you can feel the difference.

TEXTILE DEPARTMENT
E. F. DREW & CO. Inc.
BOONTON • NEW JERSEY

15 East 26th Street, New York 10, N. Y.

Branch Offices:
CHICAGO • BOSTON • PHILADELPHIA • GREENVILLE, S. C.
MONTREAL, CANADA • RIO DeJANEIRO, BRAZIL
BUENOS AIRES, ARGENTINA

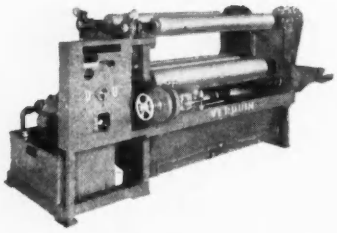
Textile Department
E. F. DREW & CO., Inc.
Boonton, New Jersey
Please send me a sample of SOLUBLE LUXOLENE today.

Name_____
Company_____
Address_____
City_____ Zone_____ State_____

JOHN VERDUIN MACHINE CORP.

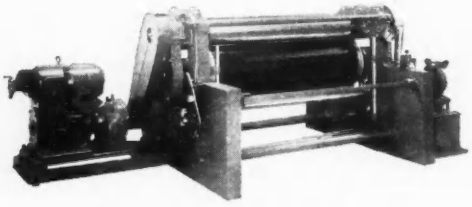
SPECIALISTS IN MACHINERY FOR THE PROCESSING OF SILK, ACETATE, RAYON AND COTTON

351-357 TENTH AVENUE **PATERSON, NEW JERSEY**



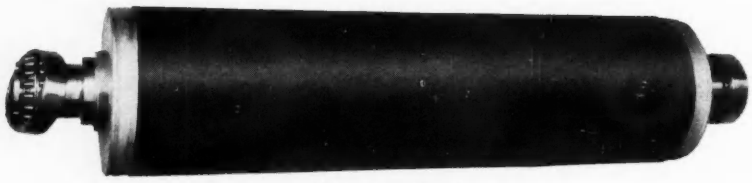
COMBINATION DYE JIG

If you are interested in perfect shading and reducing your costs tremendously write for full particulars. This machine incorporates dye padding and jigging in one complete unit.



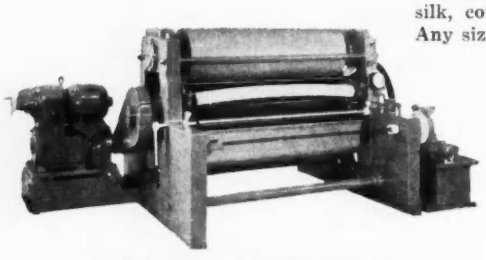
HEAVY DUTY EMBOSSER

Variable-speed, hydraulic pressure, anti-friction, bearings. For paper, cotton, vinyl and finished synthetic goods. Built to your specific requirements.



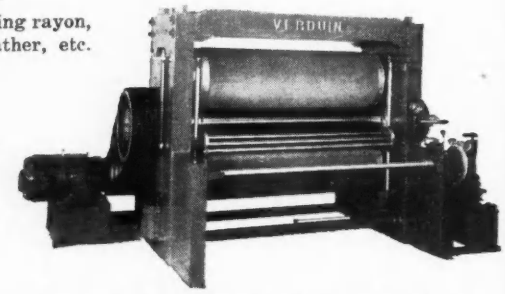
Calender Rolls

For finishing or embossing rayon, silk, cotton, artificial leather, etc. Any size or construction.



PAD DYEING MACHINE

Pressures up to 15 tons acquired by means of Hydraulic system. Heavy-duty cast-iron frames. Quick release on dye bath pan for cleaning. Variable speed drive, speeds to suit your requirements.



HEAVY-DUTY HYDRAULIC CALENDER

These machines are built for maximum pressure up to 80 tons. Cast-iron frames. Built with any combination of rolls. No clutches, push button controlled. All moving parts on antifriction bearings.

OTHER PRODUCTS OF OUR MANUFACTURE

- **Quetsches**
- **Tenter Clips**
- **Dye Becks**
- **High Speed Blanket Washers**
- **Coating Machinery**
- **Printing Machinery**
- **Dry cans, stainless and other metals**
- **Vacuum Extractors**
- **Decating Machines**
- **Special Equipment**

CONTINUOUS GRAY WASHING AND DRYING EQUIPMENT

Before you start to DYE *or* PRINT

get the facts on SHERWIN-WILLIAMS Sherdye

How else can you secure all the advantages of Sherdye Pigment-Resin Finishes in a *water-thinned* "oil-in-water" emulsion for pad dyeing?

How else can you gain from the experience of Sherwin-Williams people who make textile printing their lifework?

Pad Dyeing

Just check the following advantages of Sherdye "Water-Thinned" Pigment-Resin Colors:

1. **Low Cost**—No expensive solvent thinners
2. **No Equipment Tie-up for Color Matching.**
3. **No Migration.**
4. **No Exhaustion Problem.**
5. **Non-inflammable**—No inflammable solvents for thinning or clean-up.
6. **Easy Preparation**—No extenders—no high speed mixers.
7. **Easy, Fast Clean-up**—Just wash equipment with water
8. **Excellent Light Fastness.**
9. **Excellent Wash Fastness.**

Pigment Printing

1. **For All Kinds of Cotton Goods:** shirting, fabrics for pajamas, shorts, dress fabrics, curtains.
2. **Wide Range of Colors.**
3. **Clear, Sharp Prints.**
4. **Excellent Light Fastness.**
5. **Excellent Wash Fastness.**

Remember, Sherwin-Williams laboratories stand ready to serve you. Our technicians welcome consultations and fully realize that every printing or dyeing job represents an individual problem. Call your Sherdye expert today. He's a man who *knows* printing pigments and the sensational "water-thinned" Pigment-Resin Finishes for Pad Dyeing.

PIGMENT, COLOR AND CHEMICAL DIVISION OF

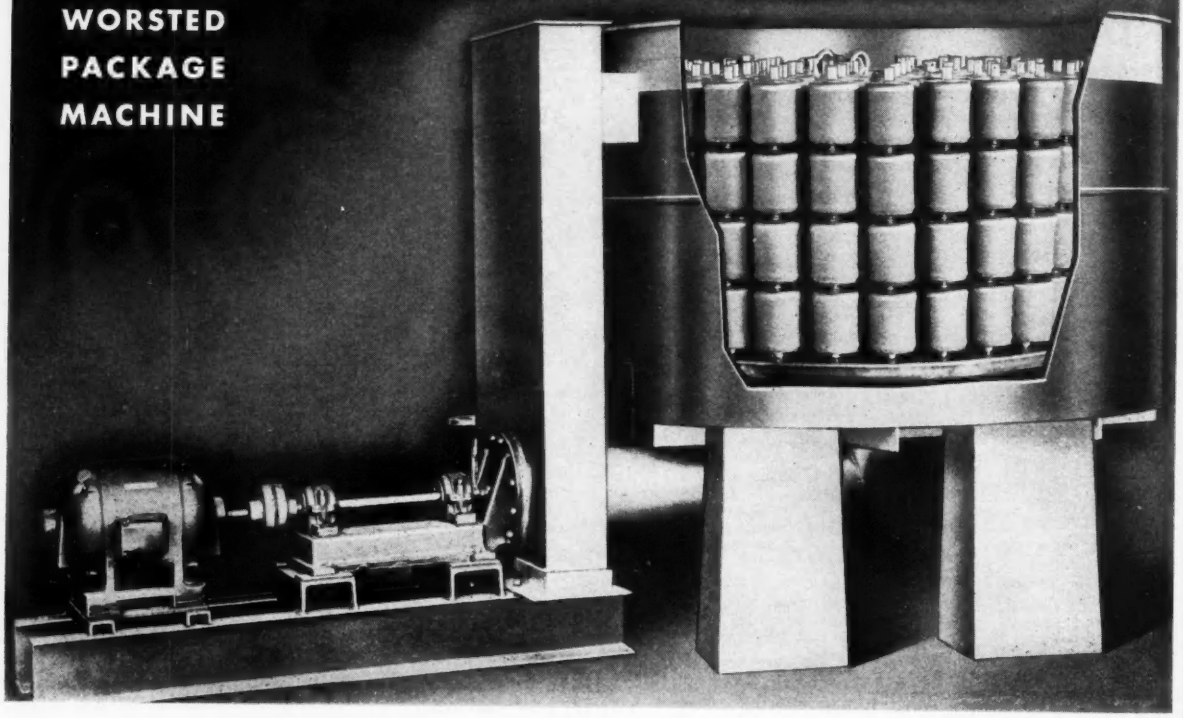
THE SHERWIN-WILLIAMS CO.

295 MADISON AVENUE, NEW YORK 17, N. Y.

SOUTHERN AGENTS: SOUTHERN DYESTUFF CORPORATION, CHARLOTTE, N. C.

MODEL "NUAKO"

WORSTED
PACKAGE
MACHINE



DEVELOPED FOR THE KNITTING TRADE

FOR DYED YARN "WITH THAT NATURAL FEEL"

NUAKO propeller system has full efficiency at boil. This assures positive level dyeing of yarn.

NUAKO fast circulation of liquor at low pressure prevents felting and channelling.

NUAKO has an exceedingly low liquor ratio for economical dyeing.

NUAKO removable material carrier permits maximum production at low labor cost.

NUAKO machines of 250-pound capacity may be coupled to one another to produce any desired poundage of a single shade in one batch.

NUAKO is of all-stainless-steel construction.

Standard Fabricators
INCORPORATED
355 WALTON AVENUE NEW YORK 51, N. Y.

Obermaier
Reg. Trade Mark

Stienen
Reg. Trade Mark

Laurel synthetic detergents

LAUREL DIOTRENE T
—excellent penetrant and softener. Recommended as a wetting agent . . . may be used in finishing bath as softener.

SUPERTERGE L
—efficient penetrant and dispersant. Stable in lime or acids. Satisfactory in hard water. May be used for scouring cotton goods and as aid in level dyeing all types of colors. Has outstanding absorbent and rewetting qualities.

SUPERGEL RS
—good scour used alone or in combination with alkalies. Fine dispersant, fast penetrant as well. Recommended for scouring cotton and synthetic fibers.

Send today for trial order of these versatile Laurel Synthetic Detergents.

. . . speed your textile processing—cut costs—superior penetrants, scours, softeners

The speedy action of Laurel's new synthetic non-ionic type detergents has won the approval of leading textile processors . . . their unusual penetrating and scouring qualities produce efficient results even in hard water.

OTHER LAUREL PROCESSING AIDS
Laurel Hydrosol • Laurel Hosiery Finishes
Laurel Textile Oils

textile
soaps, oils, finishes
LAUREL SOAP MANUFACTURING CO., Inc.
Wm. H. Bertolet's Sons
ESTABLISHED 1909

Warehouses:
PATERSON, N. J.
CHARLOTTE, N. C.
CHATTANOOGA, TENN.

2601 E. TIOGA ST. • PHILADELPHIA 34, PA.

The *Quality-Mark* of More Than 80 Years Experience in the Production of Chemical Specialties and Dyestuffs FOR THE TEXTILE INDUSTRY

• ESTABLISHED 1868 •

MANUFACTURERS

•

HOMOGESOL P and HOMOGESOL LR

CREASEPROOF AND SHRINK CONTROL RESINS

WOONCOPENS
Penetrators and Detergents

TARPENALLS
Tar and Paint Removers

WOONCOLITES
Liquid and Powder Hydrosulphites

PALASOLS
Viscous Soaps

DYESTUFFS

WOONCO · DIRECT
WOONCOCID · ACID
WOONCONESE · ACETATE
WOONCOVAT · VATS

WOONSOCKET COLOR & CHEMICAL CO.

Woonsocket, Rhode Island

Branch Offices: Elkin, N. C. Montreal, Canada Havana, Cuba Paris, France

Southern Representative: William Dixon
P.O. Box 145, Elkin, N. C.

Canadian Representative: Thomas R. Owen
696 Williams St., Montreal, Quebec

Italian Representative: Milano Bros., Piazza Repubblica 5, Milano, Italy

New Tools for Industry

POLYSIZE RESIN DISPERSIONS

Basic Materials for the Manufacturer of Modern Textile Finishes

Polysize dispersions based on a wide range of monomers are now being used to compound finishes for every type of textile including cotton, rayon, silk, nylon and linen.

VINYL ACETATE

ACRYLIC ESTERS

ACRYLONITRILE

STYRENE

VINYLIDENE CHLORIDE

METHACRYLIC ESTERS

BUTADIENE

VINYL CHLORIDE

ALLYL ESTERS

MALEIC ESTERS

CROTONIC ESTERS

POLYVINYL ACETATE: Available as either anionic, nonionic or cationic dispersions in wide ranges of particle sizes and viscosities . . . for use in compounding permanent finishes which are extremely effective in low concentrations for cotton, nylon, acetate, Bemberg and viscose fabrics . . . improve handle, durability and appearance of hosiery, piece goods, ribbon stock, lace and pile fabrics . . . excellent resistance to sunlight, ageing, mildewing, laundering and dry cleaning.

VINYL COPOLYMERS: Completely cured dispersions which dry by evaporation of water and require no baking . . . formulated for use by manufacturers of textile finishes and laundry supplies . . . non-sticking to calendars and mangles. Finishes based on these resins can be applied at high or low concentrations depending on degree of stiffness desired and are resistant to repeated launderings and dry-cleanings.

AQUAMERS: Water solutions of copolymer resins for warp sizing of rayons . . . eliminate static in weaving and reduce "ends down" . . . readily removed by a simple scour . . . used extensively as synthetic gums, as thickeners and protective colloids in printing pastes and back sizing compounds.

STYRENE COPOLYMERS: Permanent effective dulling agents for use in conjunction with resin finishes. Require moderate drying temperatures to set. Do not affect hand or quality of fabrics.

ACRYLIC COPOLYMERS: For compounding semi-permanent and permanent finishes for rayon. Used as flexible binders for talc, clays and pigments . . . increase weight and improve handle of low count fabrics. Give excellent results when used as non-ravelling and slip-proofing agents.

POLYCO

AMERICAN POLYMER CORPORATION

101 FOSTER STREET PEABODY, MASSACHUSETTS

To Manufacturers of
Dyestuffs • Textile Chemicals • Wet Processing
Machinery • Laboratory Equipment • Incidentals

THE FOURTEENTH ANNUAL PROCESSING REVIEW NUMBER will appear on DECEMBER 12th, 1949

One of the special features of past issues, which will be continued this year, is a listing of new products for the textile wet processing field.

You are invited to submit information concerning such products which you have brought out since November, 1948.

This information should include: the trade name of the product and a BRIEF summary of its uses. Please list each product on a separate sheet of paper. If illustrations are necessary, glossy photographs or black ink drawings should be furnished. If the trade name is registered or the product is patented and you wish this indicated, please so note.

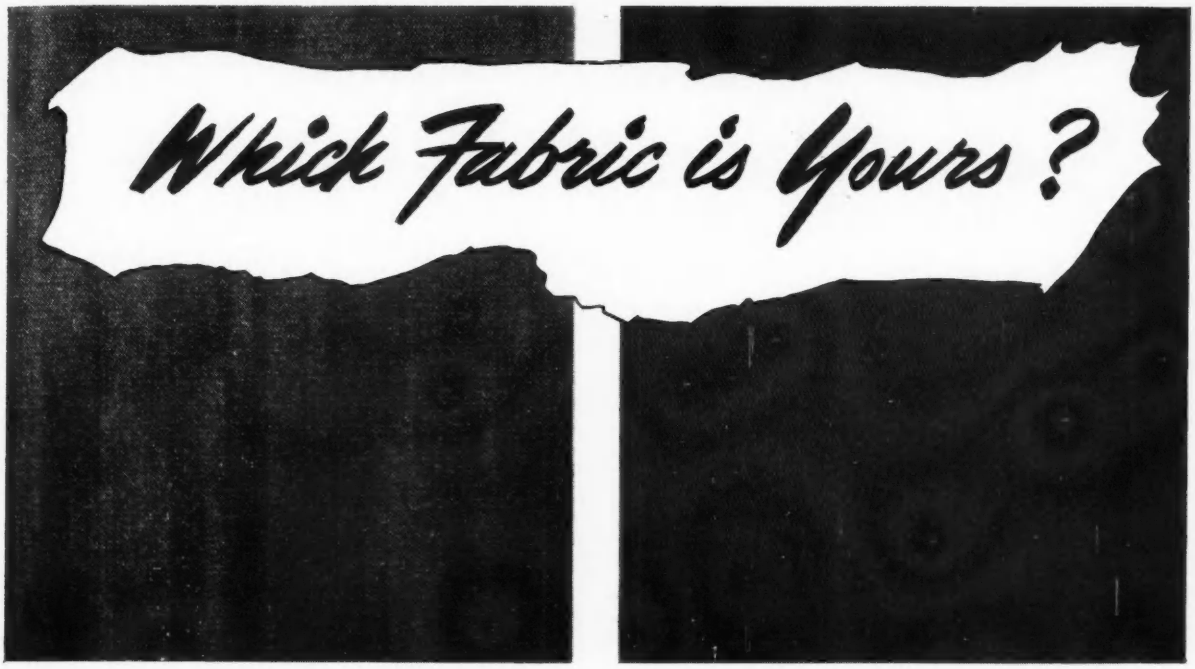
In order to insure your products being listed in our issue of December 12th, information concerning them should be in our hands NO LATER THAN NOVEMBER 7TH.

It is important that you list ONLY those products which have been brought out since November, 1948.

The response from manufacturers in the past thirteen years has provided the basis for one of the most valuable features of the issues and we trust that you will again cooperate to the fullest extent.

AMERICAN DYESTUFF REPORTER

One Madison Avenue • New York 10, N. Y.



If yours is the streaky, defective specimen, the cause may be due to faulty yarns or weaving, improper sizing, poor dyestuffs, wrong dyeing procedure, or faulty finish.

It is important that you *know* the cause of defect and *who* is responsible.

Many years of practical experience and the study of Mill procedures have equipped our technical staff with the know-how to determine cause of defects and to prevent their re-occurence.

A TYPICAL DEFECT ANALYSIS INCLUDES:

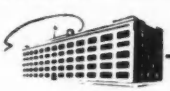
1. *A study of the yarns and their characteristics.*
2. *A study of the weave tensions employed, and sizings used, as well as tints and other greige goods variables.*
3. *Determination of dyeing characteristics of the greige goods.*
4. *Selection and proper application of dyes and finishes to eliminate the defect.*

When required, a mill or dye house investigation is made by an experienced United States Testing Company technical consultant, and corrective procedures are outlined.

A similar procedure is followed in the analysis of prints, both screen and machine.

We invite inquiries from mills, dyers and finishers, and converters, as well as manufacturers of dyestuffs and finishing compounds. A letter or telephone call will place at your disposal one of our technicians to discuss your problems and needs.

The performance of Special Finishes is important, too. If your fabrics' selling claims list crease resistance, water repellence, shrink resistance, fast color, moth proofing, mildew resistance, flame proofing, or permanent crispness, you must be able to answer the following questions *before* your selling campaign begins: Is the finish *permanent?* Will it live up to the claims on the label? Will it withstand launderings or dry cleanings? *We can answer these questions for you.*



Textile Division

UNITED STATES TESTING COMPANY, INC.

Established 1880

HOBOKEN, NEW JERSEY

PHILADELPHIA, PA. • BOSTON, MASS. • WOONSOCKET, R. I.
CHICAGO, ILL. • NEW YORK, N. Y. • LOS ANGELES, CAL.
DENVER, COL. • MEMPHIS, TENN.

Member of American Council of Commercial Laboratories

To The A. A. T. C. C.

Our congratulations on your many years of uninterrupted service in the advancement of the science of Textile Wet-Processing.

●

BLACKS

DIRECT . . . ACETATE
FORMALDEHYDE . . . ACID

EACH CHARACTERIZED BY DISTINCT INDIVIDUALITY IN ITS PARTICULAR FIELD OF APPLICATION

STOCKS CARRIED BY DYESTUFF DISTRIBUTORS IN ALL TEXTILE CENTERS

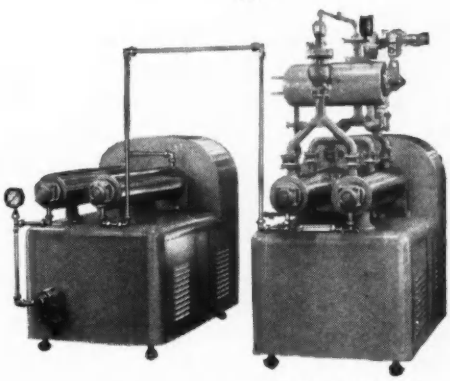
YOUNG ANILINE WORKS

INCORPORATED

OFFICE and FACTORY
2701-2733 Boston St., Baltimore, Md.

PATERSON OFFICE
50 E. 13th Street

IT PAYS to kick out the kettle on your STARCH COOKING jobs!



Votator heat transfer apparatus for starch paste

Votator heat transfer apparatus for backfill

For centuries, kettle cooking methods have served mankind well enough. This is the case no longer when it comes to modern, large-scale textile starch cooking problems—and the important business of keeping costs in line with profits.

For example, a certain textile printer who cooks 275,000 gallons of starch paste per month, for printing gum. This big heat transfer job got too expensive with the traditional open-kettle system. So he saved himself $3,000.00 per month by changing to continuous, closed controlled cooking and cooling with VOTATOR heat transfer apparatus.

Not only starch paste but vat reduction paste, vat standard paste, backfill. All these starch cooking jobs can be profitably streamlined with VOTATOR heat transfer apparatus. It sharply cuts use of floor space and manpower. It avoids spillage and waste. It makes economical use of heat transfer medium. It handles a high-speed stream of material and permits high, really effective cooking temperatures. It establishes accurate mechanical control and assures results of uniform quality.

You are cordially invited to write for case history facts.

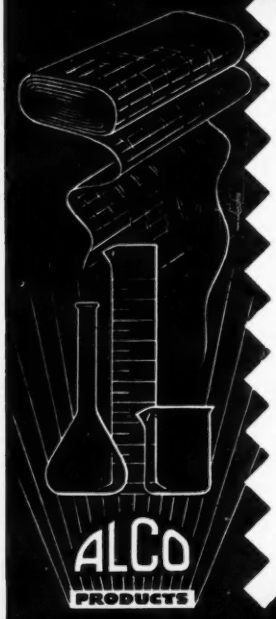
VOTATOR DIVISION

THE *GIRDLER* CORPORATION

LOUISVILLE 1, KENTUCKY

District Offices:
150 Broadway, New York City 7
2612 Russ Bldg., San Francisco 4
Twenty-two Marietta Bldg., Atlanta 3

VOTATOR *is a trade mark applying only to products of The Girdler Corporation.*



FOAMEX*

MULTI-PURPOSE FOAM RUBBER

Useful in the production of many types of laminated textile products. Available in continuous sheet form in various lengths, widths and thicknesses. Detailed information, prices and samples mailed promptly on request.

AUTHORIZED FIRESTONE DISTRIBUTORS TO THE TEXTILE INDUSTRIES

* Trademark. A Firestone product

Visit Alco's display Booth No. 7 at the AATCC Convention

ALCO OIL & CHEMICAL CORPORATION
TRENTON AVE. and WILLIAM ST., PHILADELPHIA 34, PA.

SOUTHERN DISTRIBUTORS
WICA COMPANY INC.
CHARLOTTE, N.C.

LOGWOOD BLACK

FOR
LEATHER • WOOL • SILK
COTTON • FUR • HAIR
PIGMENTS

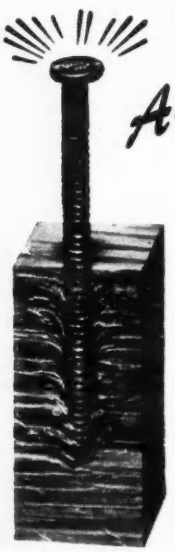
DEPENDABLE SOURCE OF SUPPLY
ECONOMICAL - RELIABLE

LOGWOOD HEMATINE QUEBRACHO
TANNIC ACID SUMAC QUERCITRON
FUSTIC GAMBIER FLAVINE

YOUNG EXTRACTS--SERVING THE INDUSTRY SINCE 1869
THE J. S. **YOUNG** COMPANY
2701-2733 BOSTON ST.
BALTIMORE 24, MD.
50 EAST 13th ST.
PATERSON, N. J.

Drives like a Nail
Holds like a Screw

Anchorfast Nails



They stay tight...

Anchorfast† Nails won't loosen, rust or corrode out like ordinary nails. That's because of their patented design *and* the fact they are made of Monel.*

Tiny annular grooves around the shank of the nail firmly grip the wood as they are driven in. And the rustless Monel readily withstands any corrosives commonly found in textile processing. Stronger than steel...stiff...easy to drive, Anchorfast Nails will put an end to rickety conveyor trucks, leaky tubs and vats, loosening ceilings and floors.

Send today for FREE testing device and list of distributors.

†Reg. U. S. Pat. Off. Independent Nail & Packing Co.

*Reg. U. S. Pat. Off.

EMBLEM OF SERVICE
INCO TRADE MARK

***Monel*... for lower maintenance**

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET
NEW YORK 5, N.Y.

Phone SHerwood 2-1726-1727 Cable Address: Patchem, Paterson, N. J.

PATENT CHEMICALS, INC.

335 McLEAN BOULEVARD
PATERSON 4, NEW JERSEY

Branch Office:
1282 Sunset Blvd.
Los Angeles, Calif.

MANUFACTURERS OF ANTHRAQUINONES

Since 1925

Petrol Colors for Petroleum Products
Nova Colors for Synthetic Finishes
Anthraquinones for Textiles

SYNTHETIC CHEMICALS "DIVISION"

Manufacturers of

Surface Tension Chemicals, Processing Specialties for Textiles and Plastics Products for Textiles

Penetrating Agents
TENSOLS & INTRAMINES

Dispersing Agents
INTRALS, 224-229-384
TENSOLS, JANUSOL
AZOCEL B

Softeners
INTRACOL, SOFTENER FG
NEGAMINE 142A

Carbonizing
TENSOLS

Scouring Agents
INTRAMINES

Leveling Agents
TENSOLS, INTRAMINES,
INTRACOLS, INTRALS
AZOCEL B

Lubricating
INTRACOL
NEGAMINE 142A

Emulsifying
INTRACOLS, MULSORS

PRODUCTS FOR SYNTHETIC FINISHES

SOTEX N—for water dispersable pigment paste
SOTEX NC—for lacquers and coating materials
SOTEX 3CW—for dispersion organic and inorganic pigments
SOTEX C—for soft textured pigments
SOTEX C, SOTEX NC, SOTEX 3CW—for alkyds modified phenolics and melamines
SOTEX 3CW, SOTEX CW—for vapo set vehicles or glycol resins
SOTEX CW, SOTEX WO—for vinyl vehicles.

Samples and Technical data upon request.

BECCO HYDROGEN PEROXIDE

Make full use of

BECCO TECHNICAL CONSULTATION

Becco technical engineers have a wealth of knowledge and practical experience to bring to your bleaching requirements. Becco laboratories have accumulated a large amount of valuable data applicable to your problems.

Let this Becco service assist you in producing higher quality, lower cost, uniform bleaching of all fibres by all methods—including continuous bleaching. Write or call—at no obligation.

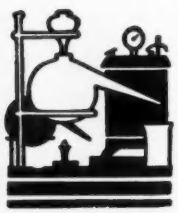
BECCO SALES CORPORATION

AGENTS FOR BUFFALO ELECTRO-CHEMICAL COMPANY, INC.

BUFFALO 7, NEW YORK

New York · Boston · Philadelphia · Chicago · Charlotte

AQUAKAL #77



A SYNTHETIC AMINE DETERGENT

•

REPLACES soap or portion of your Soap—for SCOURING piece goods, Cotton, Wool, Rayon, Acetate or Nylon.

Brighter colors due to the **PENETRATING and LEVELING** qualities.

•

Excellent for Soaping Vats — not affected by hard water.

•

HYDROXY HAND CREAM—for the operators handling nylon to keep their hands smooth.

Kali MANUFACTURING COMPANY

Manufacturing Chemists

427 MOYER ST. PHILADELPHIA 25, PA.

Are you looking for something special in the line of "DYESTUFFS" or "PENETRANTS" or "SOFTENERS"?

Send your inquiries or samples to be matched to:—

EUGENE VELLNER

MFGR. & IMP.

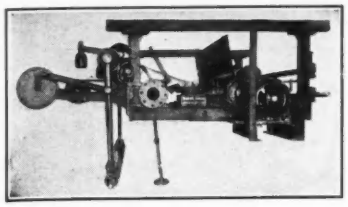
DYESTUFFS CHEMICAL SPECIALTIES

1209-11-13 N. 4th St. 1210-20 N. Orianna St.

Philadelphia 22, Pa.

"ESTABLISHED 1917"

"Prompt Laboratory Service"



Heavy Duty All Ball Bearing

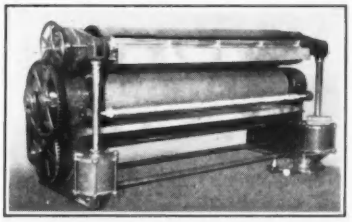
CLOTH OPENING and FOLDING MACHINE

with Vacuum Extractor

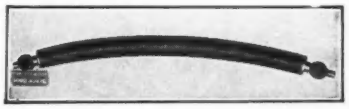
All Drives by Cut Gears or Roller Chain. Drive by Built-in Motor, for opening and extracting woolens, worsteds, plushes, cottons and rayons. Excellent extraction.

Re-Enforced Adjustable Slot Vacuum Box with Handwheel Adjustment (Patented), with Ring Type Slot Seals. Used on Continuous Crabbs, Scouring Machines, Scutchers, Dryers, etc.

GIVES EXCELLENT AND UNIFORM EXTRACTION ON WORSTEDS, RAYONS, COTTONS AND PILE FABRICS



New Heavy Duty (30,000 lbs.) Roller Bearing Squeeze Roll Unit for extracting, padding, and applying resin treatments. Pressure applied by Air Cylinders. Machine equipped with brush for removing flocks, flock tray and drain pan, and variable speed drive. Roll shafts of large diameter extending all the way through the rolls. Uniform pressure assured.



Single Bar Curved Rubber Expander with increased thickness of rubber giving longer life and better stretch and fitted with roller bearings bushings. Three Bar and Single Bar Expanders available from stock.

BIRCH BROTHERS, INC.

SOMERVILLE, MASS.

Telephone: PRospect 6-3512

Established 1883

HAROLD W. BIRCH
CLIFFORD W. BIRCH
STANLEY W. BIRCH

Builders of

NEW and IMPROVED DYEING and FINISHING MACHINERY *for* Woolens, Worsteds, Cottons, Rayons, Silks and Pile Fabrics *also* MILL SEWING MACHINES

WELL BUILT MACHINES of MODERN DESIGN

Southern Representative

JOHN C. COSBY

Phone: Greenville 5-5926
P. O. Box 212
Greenville, S. C.

LeaTex

The name that means leadership in

CHEMICAL SPECIALTIES

for the

TEXTILE INDUSTRY

"Always Reliable"

LEATEX CHEMICAL COMPANY
2722 N. HANCOCK ST., PHILADELPHIA, PA.

Here's Your Headquarters for

ACETATE DYES INTERMEDIATES

Let Turner—a name whose products you *know*—be your headquarters for this complete quality line of acetate dyes and intermediates. The Para Amino, Quinizarine and PNOT are excellent intermediates for many dyestuff processes.

Investigate these Quality Products

ACETATE DYES • QUINIZARINE
PARA AMINO ACETANILIDE
PARA NITRO ORTHO TOLOUIDINE
(Fast Scarlet G Base)

SELLING AGENTS FOR
CROWN CHEMICAL COMPANY

JOSEPH TURNER & CO.
RIDGEFIELD, NEW JERSEY
PROVIDENCE • CHICAGO
Direct New York Telephone: CHickering 4-7531

ORCO

We are happy to announce to our many friends

THE FORMATION OF

THE ORGANIC CHEMICAL CORPORATION

•

This Corporation will manufacture and sell

DYESTUFFS • INTERMEDIATES AND FINISHING CHEMICALS FOR THE TEXTILE TRADE

•

SAMUEL STOTT, Pres. JOHN J. SANDILANDS, Vice Pres.
JOHN H. GORMLEY, Treasurer

•

133-135 HOLDEN STREET PLANT AND LABORATORIES GAspee 1-2377 **PROVIDENCE, R. I.**

SKEIN DYEING MACHINES for all kinds of skein yarn up to 1500# capacity per batch.

•

RAW STOCK DYEING MACHINES, 250# to 1500# capacity per batch.

•

CONTINUOUS YARN SCOURING MACHINES.

•

ALL STAINLESS STEEL DYE KETTLES WOOD AND METAL DYESTICKS.

•

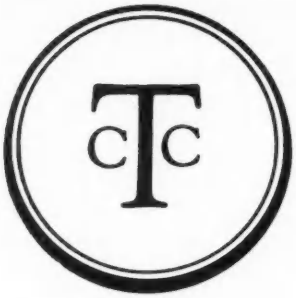
REPLACEMENT PARTS for all rotary dyeing machines.

•

KLAUDER WELDON GILES MACHINE COMPANY

•

Adams Avenue and Leiper Street, Philadelphia 24, Pa.



Serving the textile printing, finishing and dyeing industry with a complete range of quality detergents, finishes, printing gums, penetrants, softeners and specialties. Complete analytical and practical laboratory facilities.

Tex-Chem Company

20-21 Wagaraw Road
Fairlawn, N. J.

ATLANTIC CHEMICAL CORPORATION

MANUFACTURERS OF COAL-TAR INTERMEDIATES AND DYESTUFFS

Executive Offices:
127 PROSPECT STREET
PASSAIC, NEW JERSEY

Works and Laboratories:
10 KINGSLAND ROAD
NUTLEY, NEW JERSEY

OF OUTSTANDING INTEREST TO DYESTUFF AND PHARMACEUTICAL MANUFACTURERS:

ATLANTIC META-XYLIDINE, ASYMMETRICAL TECH.
ATLANTIC PARA-XYLIDINE, TECHNICAL
ATLANTIC ORTHO-XYLIDINE, VICINAL TECH.

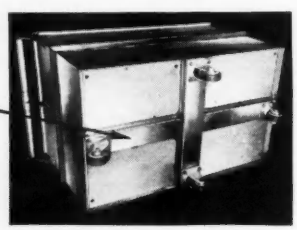
Quality, uniformity, and economy are watchwords in the production of ATLANTIC CHEMICAL CORPORATION intermediates and dyestuffs.

New Stainless Steel

WET GOODS TRUCK

- **EASY TO CLEAN**
- **SNAG FREE**
- **RUGGEDLY BUILT**

Stainless steel handle-supports welded to body
Stainless steel body, cleans quickly
Rolled edges prevent snagging of fabrics
"V" BRACE WELDED TO BODY
Truck tilts on center casters for easy maneuvering
Heavy duty, aluminum, ball bearing casters



This is the wet goods truck dyers have always wanted . . . built to stand rough handling for years . . . easy to clean . . . snag free . . . a truck designed to cut your handling costs. Standard width 3 feet, depth 30". Standard lengths 3 ft., 4 ft., 5 ft., 6 ft. Also built in sizes to meet your requirements. Send for Bulletin 7032.

S. BLICKMAN, INC. 110 GREGORY AVE. WEEHAWKEN, N. J.

See our exhibit at Exposition Chemical Industries

Blickman Built

STAINLESS STEEL TEXTILE EQUIPMENT

Dye Boxes, Linings, Cylinders, Dry Cans, Hoods, Tanks

PEUCHOT
Est. 1885

DYESTUFFS

•

ANILINE COLORS

•

ALIZARINE COLORS

•

Wetting and Scouring Agents
Liquid and powder form

•

Peroxide of Hydrogen
100-130 VOL.

Jenkins Peuchot
Color and Chemical Co.
206 Water Street New York 7, N. Y.

TEXTILES
In New York...
STORAGE and DISTRIBUTION
For the past 66 years we have offered every modern facility for protected storage. Our carefully trained office and warehouse personnel provide flexible and efficient distribution of your merchandise. Kindly address communications to Dept. "T".
The Manhattan
STORAGE & WAREHOUSE CO.
52nd STREET and 7th AVENUE, NEW YORK 19, N. Y.

CHEMICALS FOR THE TEXTILE INDUSTRY

• DETERGENTS
• SCOURING AGENTS
• DYEING ASSISTANTS

DULLERS: CATIONIC & ANIONIC
DEVELOPER FOR ACETATE DYES
SOLUBLE WAXES
MERCERIZING ASSISTANTS
ANTIFUMES FOR ACETATES
LEVELLING AND DYE-PASTING AGENTS
STIFFENING AGENTS
SOFTENERS
DURABLE FINISHES

JERSEY MANUFACTURING INC.

65 E. 23rd STREET • PATERSON, NEW JERSEY • SHERWOOD 2-3170-1

TITAN CHEMICAL PRODUCTS, INC.

MANUFACTURERS

Mill Road and Wayne Street Jersey City 6, New Jersey

CTP

Dyestuffs
Dyeing Assistants
Finishes
Penetrants
Sizings
Softeners

Sulphonated Oils
Wetting Agents
Snythetic Detergents
Chemical Specialties
For all Fabrics,
Paper, Leather and Lakes.

•

"THE IMPOSSIBLE IS 'THAT' WHICH WE HAVE NOT YET TRIED TO DO"

Try TITAN for products of proven QUALITY and MERIT.

Representatives in

JEFFERSON, MASS. KNOXVILLE, TENN. COLUMBUS, GA.

PLURAMINE* S-100%

*Reg. U.S. Pat. Off.

100% Active Organic Content

A DETERGENT & WETTING AGENT SECOND TO NONE IN PERFORMANCE.

PLURAMINE

is a versatile and efficient product and has proved highly effective in both WOOL SCOURING and RAYON DYEING.

Send for free sample and information.

KEARNY MANUFACTURING CO., INC.

Kearny, N. J. Greenville, S. C.

KMC

Got a color matching problem

where "close" isn't near enough?

call on
COLOR-EYE
the *precision*
color matching instrument

Depend on the eye alone, and color matching becomes subject to the variance of human perception. But guesswork like this has no place in the glass industry. So a leading manufacturer asked IDL to develop a rugged, reliable color matching instrument for production line use. The result is found in COLOR-EYE — now available for use wherever colors must meet exact standards.

COLOR-EYE numerically evaluates color difference to aid in quantitative color control. Using a combined electronic and optical computing system, the *ratio* of *brightness* between a color standard and sample are indicated on a wide scale meter. COLOR-EYE, better than *five times more sensitive than the human eye,* will detect differences in brightness to a fraction of a percent. Tristimulus color values may also be compared to standard white using a micrometric slit equipped with a direct-reading scale. There's no guessing . . . costly error minimized.

For proof that COLOR-EYE can provide a scientific basis for color matching in your plant, write today outlining your problem.

IDL **INSTRUMENT DEVELOPMENT LABORATORIES** INCORPORATED
163 Highland Ave., Needham Hts. 94, Mass.

COLOR EYE

5 times more sensitive than the human eye

Visit Booth 53 at the A.A.T.C.&C. Show. Bring your samples and test them on COLOR-EYE.

LOGWOOD

Natural Dyewoods
Preserve Tensile Strength
of NYLON Fibres

Ask us for
Dyeing Formula

•

AMERICAN DYEWOOD CO.

22 EAST 40th ST. NEW YORK 16

Color Division:
NEW YORK COLOR & CHEMICAL CO.
BELLEVILLE, N. J.

Branches:
BOSTON PHILADELPHIA CHICAGO

Canadian Representatives:
CANADA COLORS & CHEMICALS, LTD.
TORONTO and MONTREAL

Our 151st Year

SAVE TIME!
SAVE MONEY!

You can cut down on expensive time wasting searches for the best product to do a specific job.

While no one has the answer to every problem, our 49 years of experience in solving "headaches" of all types may help.

If you need action on a "tried and proven" product, we may have the answer for you—ready—without fumbling or waiting!

Manufacturers of:

- **Acids**
- **Detergents**
- **Dyesetters**
- **Finishes**
- **Softeners**
- **Sulphonated Oils**
- **Wetting agents**
- **Water repellents**

CHEMICAL SPECIALTIES TO MEET EVERY TEXTILE REQUIREMENT.

APEX MARK of QUALITY

Chemical Co., Inc.

Estab. 1900
225 West 34th Street
New York 1, N. Y.

HYDROFORM VAT DYES

for

PRINTING

and

DYEING

including

VAT OLIVE GREEN

•

DIRECT

and

UNION DYES

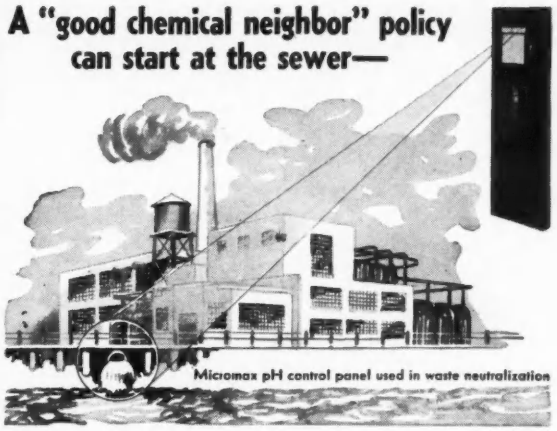
•

Inquiries for Specialties not easily obtained are invited.

PEERLESS COLOR COMPANY

P. O. Box 748
521-535 NORTH AVENUE
PLAINFIELD, NEW JERSEY

A "good chemical neighbor" policy can start at the sewer—



The sewer outfall marks the spot where a plant can prevent stream pollution by discharging only wastes which have been properly treated. And when proper treatment is linked to pH control, we can probably help . . . effectively. We can assist engineers to set up good "chemical relations" between a company and the rest of the community . . . make the plant a good chemical neighbor.

Our contribution is through Micromax automatic pH control. We can tell you in just a few minutes whether pH on your waste neutralization system—either a present system or a contemplated one—can be controlled automatically; whether you can hold pH within prescribed limits, continuously and dependably. What's more, correct pH is the definite assurance that plant wastes are meeting the requirements of good stream chemistry.

Controllability analysis predicts actual results. Through long experience with pH control applications, we have developed a unique system of "controllability analysis." By scientifically weighing all pH control factors—type of waste, treating system, reagent—this analysis determines the net control effect possible for a given waste-treating system.

If you're planning pH control, you can't afford to miss this special service. Our catalog "Effective Neutralization of Industrial Wastes" explains controllability analysis in full detail. For your convenience, it also contains a simple questionnaire . . . so we can help you begin solving your plant's pH problems now. You can answer the questions in just a few minutes.

Ask for *Bulletin ND*44-96-708. Address Leeds & Northrup Company, 4965 Stenton Ave., Phila 44, Pa.

LEEDS & NORTHRUP COMPANY, 4965 STENTON AVE., PHILA., PA.

LEEDS & NORTHRUP

MEASURING INSTRUMENTS • TELEMETERS • AUTOMATIC CONTROLS • HEAT-TREATING FURNACES

Trl Ad ND44-96-708(2b)

NOW AVAILABLE

in Stainless Steel
Welded Construction!

"METALSMITHS" *Reinforced*
STAINLESS STEEL
BATCH CANS

METALSMITHS Batch Cans are made of type 304 stainless steel, butt welded by the heliarc process, using no filler rod or flux. Top is reinforced by an endless iron ring, with handles attached. Stainless steel is flanged over edge of top ring and down 1/4" on outside. Iron chime encircles the base, with bottoms reinforced by an iron cross welded to chime. 10 to 75 gallon sizes in stock. Also available in other analyses stainless, monel, inconel and pure nickel. Send for illustrated price sheet.

OTHER METALSMITHS UTENSILS. Stainless Steel Pails, Dippers, Measures, Funnels, Scoops, Beakers, Dye and Starch Buckets, Stock Pots, Shovels.

WRITE FOR ILLUSTRATED PRICE LIST

METALSMITHS

Division of
Orange Roller Bearing Co., Inc.
562 White Street
Orange, N. J.

NAMICO

FINE TEXTILE SOAPS

•

Flakes - Powders - Solids
All Titers

•

SYNTHETIC DETERGENTS AND SPECIALTY COMPOUNDS

•

There's a NAMICO soap or synthetic for every scouring, fulling, soaping off, degumming, and finishing requirement.

Visit Our Booth #32 at the AATCC Convention.

National Milling & Chemical Co.
Industrial Soap Products Since 1896
4603 NIXON STREET, PHILADELPHIA 27, PA.

-DIASTAFOR-

TYPE L

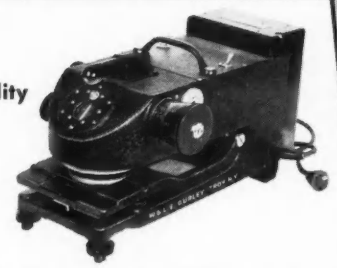
ALL-PURPOSE
DE-SIZING AGENT

Standard Brands Incorporated
595 Madison Ave., New York 22, N. Y.

DIASTAFOR
A TRADE MARK OF STANDARD BRANDS INCORPORATED

Test your fabrics these 3 ways...

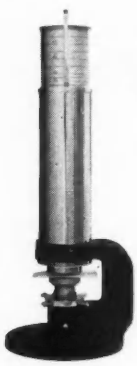
Gurley Air Permeability Test for Standard Textiles



Fifteen seconds is all it takes to make an air permeability test with the GURLEY PERMEOMETER* on fabrics which permit a passage of from 1 to 400 cu. ft. of air/min/sq. ft. at a pressure drop of 0.5".

Wind-proofness, coating penetration, filler-retention and water-resistance are some of the many fabric properties accurately measured with this versatile instrument. Send for Bulletin 1600.

*Conforms to ASTM "Tent. Meth. of Test for Air Permeability of Text. Fabrics"—D737-43T



Gurley Air-Resistance Test of Tightly Woven Fabrics

Windproof cloth, gabardine, canvas, poplin and many other very impermeable fabrics below the capacity of the Gurley Permeometer, are readily tested for porosity, air-resistance and air permeability in the GURLEY DENSOMETER. Easy-to-use and accurate in its readings, the Densometer has become preferred testing equipment in textile laboratories everywhere. Described in our Bulletin 1600.

Gurley Stiffness and Pliability Tests

Stiffness and softness can now be expressed in specific figures with the motor-driven GURLEY STIFFNESS TESTER. A precision-balanced pointer pivots in jewel bearings and indicates the stiffness factor of a test piece on a sine scale. The range includes practically all textile materials. The stiffening action of starching, laundering, or other treatments is accurately measured. Write for Bulletin 1430.

W. & L. E. GURLEY, 512 FULTON ST., TROY, N. Y.

SEND FOR CATALOGS

GURLEY
Scientific Instrument Makers
Since 1845

QUALITY RICHMOND PRODUCTS

The Improved

SCOUROUT

Formerly called SCOUROL

WILL SCOUR OIL OUT OF HOSIERY

Full Fashioned, Half Hose or Any Fibre

COTTON, NYLON, SPUN NYLON, WOOL, RAYON

A NON IONIC

FOR DETAILED INFORMATION ON YOUR PARTICULAR PROBLEM WRITE US

SOUTHERN OFFICE: 617 JOHNSTON BLDG., CHARLOTTE, N. C.
CHARLOTTE 2-1428

RICHMOND OIL, SOAP & CHEMICAL CO., Inc.
1041-43 FRANKFORD AVE., PHILADELPHIA 25, PA.

The Right Fungicide Prescription Rx

NUODEX

- Fungicides to Meet Government Specifications
- All Forms of Copper and Zinc Naphthenates
- A Complete Line of Other Fungicide Concentrates For Use in Solvent or Aqueous Systems

For full information write:

ARNOLD HOFFMAN & CO., INC.
350 Fifth Avenue, New York 1, N. Y.
Representatives to the Textile Industry for

NUODEX PRODUCTS CO., INC.
ELIZABETH F, NEW JERSEY

• CLASSIFIED ADVERTISEMENTS •

SALESMAN WANTED — Chemical concern manufacturing detergents, finishing compounds, and specialties, is seeking a top-notch salesman with a following in the trade to call on the textile dyers and bleacheries. Strictly commission basis. Write Box No. 670.

WANTED — SALES OR DEMONSTRATION WORK: Textile Chemicals or Specialties. 30 years' experience dyeing and bleaching. Employed at present. Southern territory. Write Box No. 701.

DYER WANTED—Completely new modern plant in Virginia has opening for a Dyer experienced on Viscose and Acetate Piece Goods. State age, qualifications and salary expected. Write Box No. 693.

POSITION WANTED—Dyer, with many years experience in dyeing and bleaching knit goods, cotton and rayon and acetate mixtures. Able to take full charge of dyehouse. Write Box No. 699.

POSITION WANTED: Dyer. Chemist. Supervisor. B.T.C. Lowell Textile Institute. Experienced Foreman dyer nationally known piece goods firm. Dyehouse manager narrow fabrics. Laboratory background. Executive ability. Metropolitan area preferred. Write Box No. 685.

POSITION WANTED — Chemical Engineer, recent graduate College of Engineering, seeks position with chemical or dyestuff manufacturer, where his general college education will be of value in production work. Write Box No. 702.

WANTED—EXPERIENCED DYESTUFF SALESMAN: Small dyestuff manufacturing plant in Southern New York State. Man willing to make investment and come in as partner. Write Box No. 703.

Textile chemical processes offered on a consulting basis. Substantive Anti-Fume for Acetate; Polyethylene oxide ethers; Softeners; Water-Repellents; Dullers; Permanent Finishes; Emulsifiers, etc. Write Box No. 704.

WOOLEN FINISHER AND WOOLEN PIECE DYER WANTED—Or man capable of handling both. Southern Mill. Give age, experience, details, references, expected salary with application. Write Box No. 705.

POSITION WANTED—Textile Chemist or Sales Representative. Textile school background, mill experience in wet-processing, sales and service for textile chemical manufacturer. Will relocate. Age 28. Married. Write Box No. 706.

Textile Chemist, Canadian, age 33, desires position in U. S. A. Permanent residence in view. Experienced in matching shades on any type of fibre, with vats, naphthols and unions; capable of analyzing and manufacturing surface active agents and auxiliary chemicals. Moderate salary with chance for advancement. Write Box No. 707.

CAREER POSITION OFFERED—To young man in the Southern States by a textile specialty firm which has been established since 1873. Must have a knowledge and acquaintance in the general textile trade in the South that will enable him to build up a territory. We manufacture a well known, high grade line of natural and synthetic detergents, softeners, penetrants, fulling and scouring agents and finishes for all phases of textile manufacturing. Liberal salary and travelling expenses to the right man. Replies strictly confidential. Write Box No. 708.

SITUATION WANTED: CHEMIST—DYEHOUSE —LABORATORY MANAGER. 10 years' practical and technical experience preparing, bleaching and dyeing rayon, acetate and cotton piece goods—box and jig—desires similar progressive position. Resin finishing. Sound administrative and organizing ability. Write Box No. 709.

SALESMAN WANTED—Old established concern, with main office and plant in New England, manufacturing complete line of finishing materials mainly for cotton, bleaching and finishing plants, desires salesman for New England territory. Some experience and following preferred, but not essential. Write complete qualifications. Replies strictly confidential. Write Box No. 710.

WANTED—CHEMIST: Practical knowledge and experience in manufacturing of methyl taurine and its derivatives. Excellent opportunity. Write complete qualifications; all replies strictly confidential. Box No. 711.

HUNTING FOR GLYCERINE?

Armour has it as close as your phone. Just call the nearest of Armour's 332 convenient stock points for all grades. Quick delivery keeps your inventories low.

ARMOUR *Glycerine Division*

Armour and Co., 1355 W. 31st St., Chicago 9, Ill.

DE PAUL

RESEARCH PROGRESS

QUALITY PRODUCTS

FOR ALL TYPES OF

TEXTILE PROCESSING

DETERGENT F-101	PERMA SOFTENER FA 3
LIQUEX 300	PERMA SOFTENER N
100% LIQUEX 1000	SLIPPROOF FWA
CLEANER 802 N	PIGMENT WHITE 18 R
DEPCO RESIN N	PIGMENT WHITE 15
UREA FORM., URC 1	TEXO GUM C
UREA FORM., ODORLESS 100	DEFOAMER
UREA FORM., LIQUID URS 1	PRINT WASH 160
DULLER, LIGHT 116	TERGOLENE 47
DULLER, DARK 110	CHEMO BLEACH P
PERMADULL	CHEMO BLEACH W

CANADIAN REPRESENTATIVE:
CHEMTEX PRODUCTS LTD.
TORONTO, ONTARIO

DE PAUL *PROGRESS THROUGH RESEARCH*

CHEMICAL COMPANY, INC.

44-27 PURVIS STREET
LONG ISLAND CITY, NEW YORK

Rx *for preventing pick-ups and pulled threads in running 10, 15, and 20 denier Nylon*

NYLON OIL #82

Oil cups for use on full-fashioned and seamless hosiery machines are available in quantity.

Reduce seconds or irregulars to as little as 2% with Nylon Oil No. 82. Used straight—not in an emulsion with water and other products. Blended to avoid effects of preboarding. Samples of Nylon Oil No. 82 available for testing purposes. Write today.

Specialties for
SCOURING
STRIPPING
PENETRATING
FINISHING
LUBRICATION

Zurnoil TEXTILE CHEMICALS

Oils for all textile conditioning requirements.

O. F. ZURN COMPANY
PHILADELPHIA 32, PA.
Knoxville, Tenn. • Hamilton, Ontario, Canada

DID YOU KNOW THAT...

A garment dyed with Indigo was found in an Egyptian tomb dating from 3500 B. C.

The Romans were acquainted with the art of applying metallic mordants to wool, employing a decoction of sea-grass for fixing the alum mordants.

The sting of insects is apparently due to the presence of formic acid.

Textile Manufacturers have found Burk-Schier wet-processing agents the most effective and economical for scouring, bleaching, dyeing and finishing.

BURK-SCHIER

BURKART-SCHIER CHEMICAL CO.

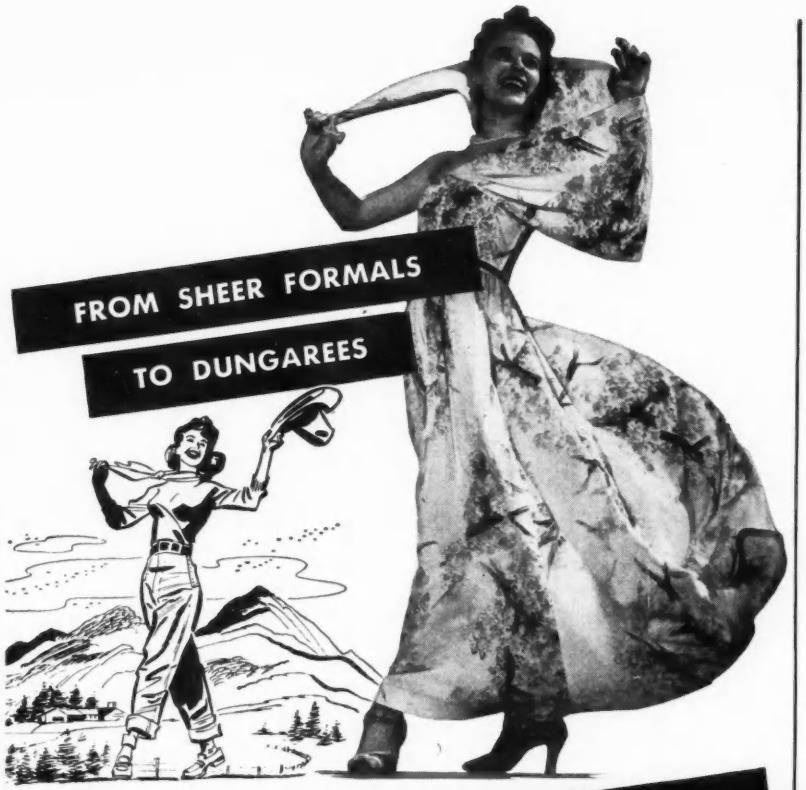
Manufacturing Chemists for the Textile Industry

CHATTANOOGA, TENNESSEE

PENETRANTS • DETERGENTS • SOFTENERS • REPELLENTS • FINISHES

INDEX TO ADVERTISERS

Aktivin Div., The (Heyden Chemical Corp.)	XI
Alco Oil & Chemical Corp.	LXXXVIII
Althouse Chemical Co., Inc.	LXXII
Amalgamated Chemical Corp.	VI
American Aniline Products, Inc.	VII
American Cyanamid Co. (Ind. Chem. Div.)	Back Cover
American Dyewood Company	XCVI
American Polymer Corporation	LXXXIII
Apex Chemical Co., Inc.	XCVI
Arkansas Company, Inc.	VIII
Armour & Co.	C
Arnold, Hoffman & Co., Inc.	III
Atlantic Chemical Co., Inc.	XV
Atlantic Chemical Corporation	XCIII
Atlas Electric Devices Co.	XIV
Atlas Mineral Products Co.	XXX
Becco Sales Corp.	XC
Birch Bros., Inc.	XCI
Blickman, Inc., S.	XCIV
Burkart-Schier Chemical Co.	CII
Butterworth & Sons Co., H. W.	CVI
Calco Chemical Division, American Cyanamid Co.	XXI, LXIX
Calgon, Inc.	XXXII
Campbell & Co., Inc., John	LXVI
Carbic Color & Chemical Co., Inc.	XXXVI, XXXVII
Celanese Corporation of American	LVII
Ciba Company, Inc.	IX
Colgate-Palmolive-Peet Company	XVIII
Commonwealth Color & Chemical Co.	XLVIII
Crucible Steel Company of America	XXIII
DePaul Chemical Co., Inc.	CI
Dow Corning Corp.	CIV
Drew & Co., Inc., E. F.	LXXVII
Du Pont de Nemours & Co., E. I.	
Dyestuffs Division	Front Cover
Electrochemicals Dept.	LII
Emery Industries, Inc.	LXV
Esmond Chemical Co., Inc.	Second Cover
Fancourt & Co., W. F.	L
Gaston County Dyeing Machine Co.	LXXV
Geigy Company, Inc.	XXIV, XXV
General Chemical Division, Allied Chemical & Dye Corp.	XXIX
General Dyestuff Corp.	XXXI
Girdler Corp., The	LXXXVII
Glasco Equipment Corporation	LXIV
Glycerine Producers' Association	CIII
Gurley, W. & L. E.	XCIX
Hart Products Corp.	LIII
Hefti & Co., M.	LXXVI
Hercules Powder Co.	LXX
Heyden Chemical Corp.	XXXIX
Hilton-Davis Chemical Co.	XLIV, XLV
Hinnekens Machine Company, Inc.	XXVI
Hooker Electrochemical Co.	X
Houghton & Co., E. F.	XXXVIII
Interchemical Corp., Textile Colors Div.	LV, LVI
Instrumental Development Laboratories, Inc.	XCVI
International Nickel Co., Inc.	LXXXVIII
Jenkins-Peuchot Color & Chemical Co.	XCIV
Jersey Manufacturing, Inc.	XCV



Nothing takes the place of Glycerine

Textiles have to "take it" nowadays! Durable, long-wearing fabrics that retain their original freshness are a prerequisite to modern living . . . and here again, versatile glycerine plays an all-important part in the manufacture and processing of these materials.

For instance, glycerine is a standard ingredient in printing pastes and spray-dyeing solutions. It is a hygroscopic agent and softener in sizing compositions. As a humectant, it prevents drying, stiffness and caking in lubricating solutions. *And*—as a chemical intermediate, glycerine is essential in the preparation of those alkyd resins which are helping to make possible today's anti-mold and rot-proof fabrics.

Because glycerine's combination of physical and chemical properties can not be matched by any other product—in the textile industry as in almost every other industry—*Nothing takes the place of glycerine!*

GLYCERINE PRODUCERS' ASSOCIATION
295 Madison Avenue, New York 17, N. Y.

Technical GLYCERINE NEWS

A PROCESS FOR TRANSPARENTIZING TEXTILES is described in a recent patent. By impregnating an open meshed fabric with a resin ether, in solution with an aminoplast ether resin reacted with an alkyd resin, it is claimed that the material is completely transparentized (Alkyd resins are based on glycerine and a variety of reactants). (T-15)

★ ★ ★

A LONG-LASTING MILDEW AND ROT RESISTANT PRESERVATIVE for textiles has recently been placed on the market by a leading chemical company. Typical formulations of both the impregnating type and those types where a continuous resin phase is created throughout the fabric, contain modified alkyd resins—important end-products of glycerine. (T-16)

★ ★ ★

TROUBLED BY LIPSTICK STAINS? A University of Illinois clothing specialist claims they can be removed from washable fabrics with glycerine. Best results were obtained by working the glycerine into the material prior to laundering.

★ ★ ★

GLYCERINE SECTIONS OF BEILSTEIN TRANSLATED! Now available for the first time, an English translation of the Glycerine Sections of Beilstein's famous *Handbuch der Organischen Chemie* (4th Edition). Complete in *one* volume entitled "GLYCERINE AND SOME GLYCERINE DERIVATIVES."

Publication authorized by the Attorney General of the United States. Compiled and edited by Dr. R. N. DuPuis, Dr. C. S. Miner, Jr. and J. B. Segur—long acknowledged as authorities in the field of Glycerine and its properties. Amassed in its 210 pages are an unusually large number of Glycerine derivatives with extensive cross-references. Also included are a complete table of contents and a detailed index of the derivatives and fatty acid esters of Glycerine. A timely, comprehensive volume for your chemical reference library.

Order from the Glycerine Producers' Association enclosing $2.50 (check or money order) for each copy.

GLYCERINE PRODUCERS' ASSOCIATION, DEPT. 13
295 MADISON AVENUE
NEW YORK 17, N. Y.

I should like to know the source of those items appearing in Technical Glycerine News which I have checked below.

☐ T-15 ☐ T-16

NAME.....

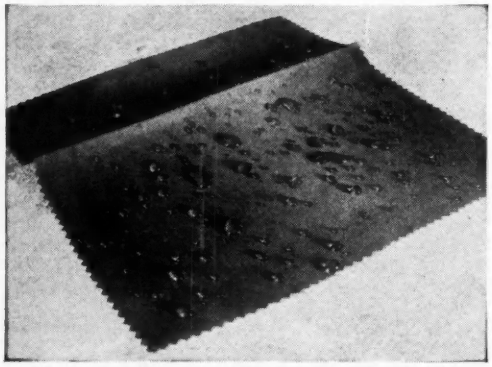
COMPANY.....

ADDRESS.....

DC SILICONES *Silicone News*

We've done something about the weather!

We can't plug up the clouds but we can give you the millions of invisible umbrellas that come packed in a pound of the new and durable water repellent, DeCetex 104. These silicone umbrellas are submicroscopic but you can see their mass hatred for rain in the picture below. They roll rain up into droplets that are shed like water from a duck's back.



The remarkable water repellency of DeCetex 104 treated nylon is indicated by the fact that water stands in almost perfect spheres on the fabric.

This is the water repellent treatment for nylon and acetate fabrics that research chemists have been working for years to find. It permits the fabric to breathe and it is durable to dry cleaning and laundering. Fabrics treated with DeCetex 104 require no washing or neutralization to remove residual chemicals. They are odorless and have a soft, smooth, full hand with no apparent increase in mark-off.

DeCetex 104 is especially effective on nylon fabrics which are normally difficult to make water repellent. DeCetex 104 treated nylon, for example, retains its high initial resistance to wetting even after 12 dry cleanings or two 2-hour washings.

DeCetex 104 can easily be emulsified and applied with conventional finishing and resin curing equipment. Cost is comparable to that of other high quality water repellent treatments. For more information about DeCetex 104, phone our nearest branch office or write for data sheet No. B-10.

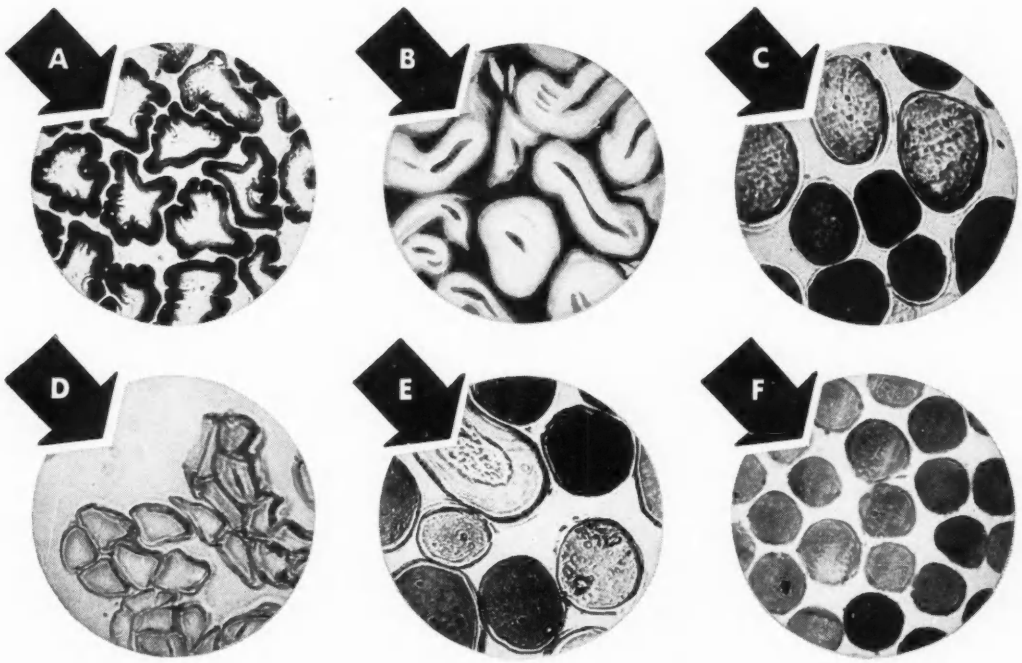
DOW CORNING CORPORATION
MIDLAND, MICHIGAN
Atlanta • Chicago • Cleveland • Dallas • New York • Los Angeles
In Canada: Fiberglas Canada, Ltd., Toronto
In England: Albright and Wilson, Ltd., London

Dow Corning FIRST IN SILICONES

INDEX TO ADVERTISERS

Kali Mfg. Co.	XC
Kearny Manufacturing Company, Inc.	XCV
Kelco Co.	LXIII
Klauder Weldon Giles Machine Co.	XCII
Laurel Soap Mfg. Co., Inc.	LXXXI
Leatex Chemical Co.	XCI
Leeds & Northrup Co.	XCVII
Manhattan Storage & Warehouse Co.	XCIV
Mathieson Chemical Corp.	LXVII
May Inc., Otto B.	XLIII
Maywood Chemical Works	LIV
Metalsmiths Div., Orange Roller Bearing Co., Inc.	XCVIII
Monsanto Chemical Co.	XVI, XVII
National Aniline Division, Allied Chemical & Dye Corp.	XIX
National Milling & Chemical Co.	XCVIII
National Starch Products	XLIX
Nopco Chemical Co.	XXII
Nova Chemical Corp.	XL
Nuodex Products Co., Inc.	XCIX
Nyanza Color & Chemical Co., Inc.	LXII
Onyx Oil & Chemical Co.	XLVII
Organic Chemical Corp., The	XCII
Patent Chemicals, Inc.	LXXXIX
Peerless Color Company	XCVII
Perkins & Sons, Inc., B. F.	XLVI
Pfister Chemical Works, Inc.	LXI
Pfizer Co., Inc., Chas.	Third Cover
Refined Products Corp.	XII, XIII
Richmond Oil Soap & Chemical Co., Inc.	XCIX
Rohm & Haas Company	IV, V
Sandoz Chemical Works, Inc.	LXXIII
Scholler Bros., Inc.	LIX
Sherwin-Williams Co., The	LXXIX
Socony-Vacuum Oil Co., Inc.	LI
Solvay Sales Div., Allied Chemical & Dye Corp.	XLI
Standard Brands, Inc.	XCVIII
Standard Fabricators, Inc.	LXXX
Stein Hall & Co., Inc.	CV
Synthron, Inc.	LX
Tennessee Eastman Corp.	XXXIII
Tex-Chem Company	XCIII
Titan Chemical Products Inc.	XCV
Turner & Co., Joseph	XCI
U. S. Stoneware	
U. S. Testing Co., Inc.	LXXXV
Vanderbilt Co., Inc., R. T.	XXVIII
Van Vlaanderen Machine Co.	XLII
Verduin Machine Corp., John	LXXVIII
Vellner, Eugene	XC
Virginia Smelting Co.	LXVIII
Wallerstein Co., Inc.	XXXV
Watson-Park Company	XXXIV
Wolf & Co., Jacques	XXVII
Woonsocket Color & Chemical Co.	LXXXII
Young Co., J. S.	LXXXVIII
Young Aniline Works, Inc.	LXXXVI
Zinsser & Co., Inc.	LVIII
Zurn Co., O. F.	CI

How many of these Fibers can you Identify?



Photomicrograph Courtesy Textile Fiber Atlas

You're an expert if you guessed all six. No matter how many of these fibers you named correctly, they're all vital to Stein Hall. Each of these fibers and many more are continually under the scrutiny of our laboratory technicians.

For 83 years, Stein Hall has serviced the textile industry by developing the finest products for warp sizing, printing, and finishing fabrics made from these and other fibers.

Continuous study...endless testing under expert supervision in controlled laboratories means a more efficient operation in your plant.

Trained salesmen will tell you about Stein Hall textile products. Laboratory specialists will back them up. For a textile problem, call on Stein Hall

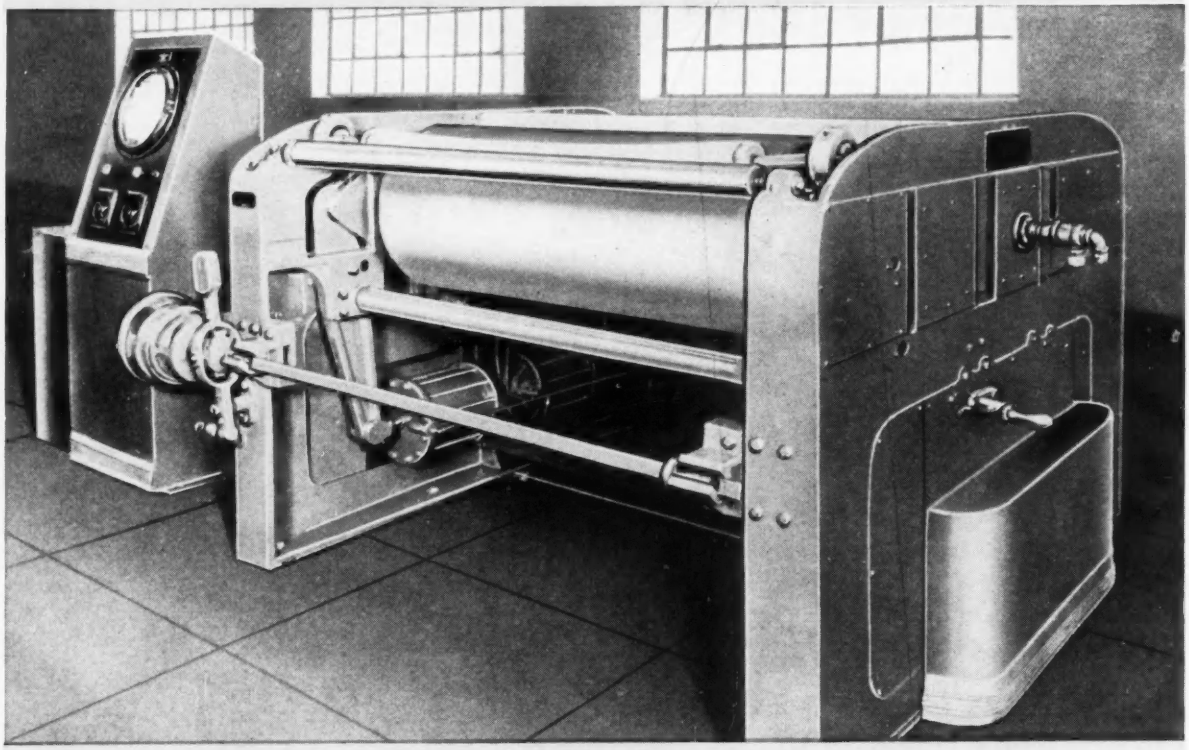
WRITE FOR QUOTATIONS, FREE SAMPLES AND CONSULTATION

STEIN HALL

285 MADISON AVE., NEW YORK 17, N. Y.

Branch offices in 17 other cities in the U. S. and Canada

A Viscose Rayon
B Cotton
C Wool
D Silk
E Mohair
F Nylon



Latest-type Butterworth Horizontal Calender

"...the first practical Horizontal Calender"

New in design . . . new in outstanding features . . . yet the balanced pressure design of this new Butterworth Horizontal Calender permits reduction in over-all weight and size. Requires no more floor space than vertical calenders.

In the completely enclosed streamlined design, there are four balanced pneumatic air cylinders. Pressures up to 15 tons can be adjusted to each side of the roll to assure even pressures across the face.

Rolls are protected against damage by a simple valve mechanism for jumping seams. Rolls come apart just enough to allow seams to pass and then are brought together again smoothly and easily.

Standard equipment includes: (1) automatic threading device, (2) ball-bearing friction let-off and disc winder, (3) pressure recording and drum control speed regulator, (4) steam heat to center roll. Gas heat arrangement and temperature control equipment are available if desired.

For complete performance data, talk to Butterworth engineers. Or write us today.

BUTTERWORTH

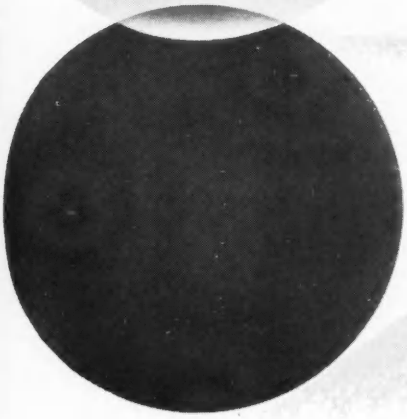
H. W. BUTTERWORTH & SONS COMPANY, Phila. 25, Pa. • Providence Div., Providence R. I. • 1211 Johnston Building, Charlotte, N. C. • In Canada: W. J. Westaway Co., Hamilton, Ont.

Representatives in Principal Countries of the World

A NEW Acid-forming Catalyst for Textile Printing . . .

Brighter, Sharper, Clearer Colors

Pfizer AMMONIUM GLUCONATE, technical



• Textile printing on cotton, silk, rayon and linen with vat soluble ester (indigosol-type), or acid and chrome formulations may now be improved by the use of Pfizer Ammonium Gluconate, Technical.

This non-toxic, non-corrosive catalyst is the stable, free-flowing crystalline ammonium salt of gluconic acid. Upon steaming, it decomposes to yield an efficient acid medium for the development of brilliant colors. Note these advantages of Pfizer Ammonium Gluconate, Technical:

1. **Ensures greater color value, more stable pastes, less tendering and brighter colors than other acid catalysts.**
2. **Complete neutralization assured with this neutral salt.**
3. **Non-volatility increases leveling and penetration of the color.**
4. **Dissolves readily in water for uniform distribution throughout print paste formulations.**
5. **A dry powder — its use eliminates returnable containers, and minimizes shipping charges.**

Potential applications for Ammonium Gluconate include the printing of stabilized azo colors and for the polymerization of textile resins. Pfizer Ammonium Gluconate, Technical is packed in moisture-proof fiber drums. Write today for samples and further technical information. Chas. Pfizer & Co., Inc., 630 Flushing Avenue, Brooklyn 6, N. Y.

PFIZER

Manufacturing Chemists Since 1849

For Superior

ANILINE BLACKS

1. GOOD PRINTING PROPERTIES
2. MINIMUM TENDERING OF THE FABRIC
3. DENSE, PLEASI[illegible] SHADE
4. EASE OF PREPARATION
5. FREEDOM FROM GRIT

Order . . . CYANAMID AERO* BRAND

YELLOW PRUSSIATE OF SODA

[Sodium Ferrocyanide $Na_4Fe(CN)_6 \cdot 10H_2O$]

YELLOW PRUSSIATE OF POTASH

[Potassium Ferrocyanide $K_4Fe(CN)_6 \cdot 3H_2O$]

PRUSSIATE ANILINE BLACKS are adaptable for printing cotton and rayon in a wide variety of styles in combination with vat dyes, rapid fasts and steam colors. This process is most effective in reducing tendering of the fabric, and minimizes the electrolytic effect on the doctor blade.

When Ordering Prussiates Specify AERO BRAND, your assurance of . . .

1. Uniformly high quality over 99% Yellow Prussiate of Soda or Yellow Prussiate of Potash.
2. Close chemical control from basic raw materials to the finished product.
3. Small crystalline form dissolves readily in hot or cold water.

For dependable supply . . . for authoritative technical service . . . call on Cyanamid.

AMERICAN *Cyanamid* COMPANY

INDUSTRIAL CHEMICALS DIVISION DEPT E10

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.